• Prohibited waste is stored onsite such as solvents, oxidisers or tyres and a fire occurs.	• Accentuation of fire with inability to control. • Fire spreads into adjoining property causing huge financial loss. • Enforcement action taken.
• Electrical/mechanical fault causes fire.	• Fire destroys property and or equipment • Release of particulate and ash potentially causing environmental nuisance • Contravention of a permit condition & possible enforcement action by administering authority.
• Access to fire hydrants is limited/impeded due to obstructions being in place.	• Inability to rapidly apply water and supress fire.

Control Measures:

- If necessary (larger fires) contact Fire & Rescue NSW for assistance and advice.
- Ensure that no smoking is permitted in areas which are not specifically designated for smoking.
- Ensure that Facility is secure when no one is present on site.
- Ensure that plant and equipment are regularly maintained in accordance with supplier or manufacturer's recommendations.
- Ensure onsite fire procedures are followed, including evacuation if necessary.
- Do not store prohibited substances on site.
- Every effort should be made to contain fire water on site. Drains must be blocked as soon as possible, while it is safe to do so, thereby minimising or preventing offsite drainage of contaminated water.
- Prior to utilising fire retardants, advice must be sought from Fire and rescue NSW.
- Ensure that appropriate fire extinguisher types are located on site.
- Ensure fire hydrants are not obstructed at any time so access to firefighting water is provided.
- All personnel must be trained in effective firefighting skill with resulting competency being achieved recorded.

Record Keeping:

- All releases to air are to be reported to the EPA as soon as practicable via telephone after becoming aware a release has occurred that is likely to result in nuisance or harm at any odour or dust sensitive place.
- All releases to the air are to be recorded (refer to **Appendix 2 – Forms and Checklist, Form 4 – Dust and Particulate Monitoring Form).**

- Sensitive receptors must be monitored, AT THEIR LOCATION (i.e. offsite) after an incident, to determine if nuisance or harm is occurring or is likely to occur (refer to **Appendix 2 – Forms and Checklists, Form 4 – Dust and Particulate Monitoring**).
- Record all complaints received (refer to **Appendix 2 – Forms and Checklist, Form 3 – Complaint Investigation Form).**

Responsibility and Communication:

- All Facility staff members that are engaged in the above mentioned activities are responsible for ensuring control measures are met.
- The Site Manager is to promptly report to the Managing Director any variance from the control measures that may result in environmental harm or nuisance.
- The Managing Director is responsible for advising the relevant administering authority of all fire incidents in the first instance.
- The Site Manager is responsible for advising the relevant administering authority if the Managing Director is un-contactable to do so.
- The Site Manager is responsible for controlling the incident unless an administering authority, such as Fire and Rescue NSW or the EPA for example declares itself as the "incident controller".
- The Site Manager or relevant Supervisor must carry out any necessary action, as directed by any administering authority attending the incident.
- The Site Manager or relevant Supervisor is responsible for ensuring that all Employees carry out appropriate action that may be assigned to them.
- The Managing Director is responsible for providing the relevant administering authority a written report surrounding the incident, what measures were taken to minimise or prevent environmental harm and what measure are to be taken to minimise or prevent a recurrence.

Relevant Legislation:

- *Protection of the Environment Operations Act 1997*.

Appendix 2

Forms and Checklists

Please note that the following forms are indicative only, and merely outline the information that is required to be recorded by Bettergrow and provided to the administering authority, as and when required. This information may be recorded by other means as long as the pertinent information is captured.

Forms

Form 1 – Daily Running Sheet

Date	Time	Initials	Description of Daily Events Include normal day to day event and or extraordinary events such as non-compliances or emergencies, as well as the removal of all waste from the Facility and necessary information (transporter, volumes, etc.). This should link with information contained in other forms.
			e.g. normal operating conditions occurred today, weather did not lead to offsite nuisance or release of contaminants, observations confirmed pollution control measures were adequate oil water generated onsite removed via Company X.

Form 2 – Daily Weather Conditions

Date and initials	Description of Weather Incorporate any changes throughout the working day, a weather vane measuring wind direction and a rainfall gauge should be installed on site. Include previous night-time conditions, e.g. overnight rainfall should be measured and recorded.			
	Rainfall (mm)	Wind direction and general weather description and location when observed		
		Morning	Noon	Afternoon

Form 3 – Complaint Investigation Form

Note: The information on this form must be completed as soon as possible following a complaint. All details must be completed and the form filed and any necessary actions about resolution of the complaint must be filed with it.

Date and time of the complaint:	……../……../…… ……am/pm
Complainant Contact Details	
Name of the complainant:	
Complainant's address:	
Complainant's phone numbers:	**Landline**: **Mobile**:
Complaint Details	
Is the incident presenting any immediate safety risk to others, e.g. other road users or bystanders?	
Yes / No (Please circle answer)	
If yes, has the Police or Queensland Fire and Rescue been notified? Call 000, if there is any possible safety risk.	
Yes / No (Please circle answer)	
Reason for the complaint:	
Detail any investigation undertaken:	
Conclusions formed:	

Complaint Resolution
Name of Employee responsible for complaint resolution:
Employee's phone number(s): **Mobile**: **Landline**:
Have any actions been taken to resolve the complaint?
Has this action been successful?
Not at all / Somewhat / Prevented further release(s) (Please circle answer)
Name of Employee responsible for complaint resolution:
Employee's phone number(s): **Mobile**: **Landline**:
Has the cause of the complaint caused or does it threaten serious or material environmental harm? *Refer to* **Appendix 1, Section 3, Emergency Procedure 1 – Incident Management** *for the definitions of serious and material environmental harm.*
Yes / No (Please circle answer)
Is yes, then Form 6 – Incident Notification Form must be completed and the relevant authorities must be notified.
Notes

Form 4 – Dust and Particulate Monitoring Form

Date, Time and Initials	**Wind Direction**	**Wind Speed**	**Location of Dust Monitoring** (including whether upwind or downwind)	**Dust or Particulates Observed Migrating Beyond Boundary** (Yes/No and if yes, describe the extent)
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

Beaufort scale number	Descriptive term	Units (km/h)	Description on Land
0	Calm	0	Smoke rises vertically.
1-3	Light winds	19 or less	Wind felt on face; leaves rustle; ordinary vanes moved by wind.
4	Moderate winds	20 - 29	Raises dust and loose paper; small branches are moved.
5	Fresh winds	30 - 39	Small trees in leaf begin to sway; crested wavelets form on inland waters.
6	Strong winds	40 - 50	Large branches in motion; whistling heard in telephone wires; umbrellas used with difficulty.
7	Near gale	51 - 62	Whole trees in motion; inconvenience felt when walking against wind.
8	Gale	63 - 75	Twigs break off trees; progress generally impeded.
9	Strong gale	76 - 87	Slight structural damage occurs -roofing dislodged; larger branches break off.
10	Storm	88 - 102	Seldom experienced inland; trees uprooted; considerable structural damage.
11	Violent storm	103 -117	Very rarely experienced - widespread damage.
12+	Hurricane	118 or more	

Form 5 – Fogger and Sprinkler Usage Recording Form

Date	Fogger Usage	Sprinkler Usage	Hours of operation

Form 6 – Incident Notification Form

(Page 1 of 3)

The following form must be completed following an incident, fire, release or spill (> 10 litres), and a copy must be sent to the EHP and the landowner with 24 hours. *If necessary*, a copy of this completed form must be sent to all other relevant authorities within 7 days of the incident.

Company Name:
Permit Number:
Incident Details
Date and time of the incident: ……../……../…… ……am/pm
Is the incident presenting any immediate safety risk to others, e.g. other road users or bystanders?
Yes / No (Please circle answer)
If so has the Police or NSW Fire and Rescue been notified? Call 000, if there is any possible safety risk.
Yes / No (Please circle answer)
Nature of the incident:
Nature of the pollutants involved, including concentrations (if known):
Approximate volume of the spill/release or area affected?
..... litres or m^2
Location of incident, where is pollution occurring or likely to occur?
Street address:
Location description: .....
Circumstance of the incident and suspected cause:

Has Form 2 – Daily Weather Conditions for the day of the incident been attached to this form?
Yes / No (Please circle answer)
Have any samples been collected?
Yes / No (Please circle answer) *If a contaminant is being released to the air or water after a spill, collect a sample in a sample container or take a photograph of the release to the air or water. Ensure sample is marked with the date, time and name of the person taking sample. Ensure sample is handed to the Manager responsible.*
Details of samples collected: .....
Have any actions been taken to minimise/mitigate the environmental effects of the incident, e.g. blocked drains?
Has this action been successful?
Not at all / Somewhat / Prevented further release(s) (Please circle answer)
Name of the Manager responsible:
Manager's contact phone number(s): **Mobile**: ..... **Landline**:	
Waste Transporter Details (if applicable)
Permit Number:
Vehicle type:
Vehicle registration number:
Name of driver:
Contact number of driver:

Notification of Incident	
	(Please circle answers)
Has the EPA been notified?	Yes / No
Has the landowner(s) been notified?	Yes / No
Has the Local Government Authority been notified?	Yes / No
Has the Local Public Health Unit been notified?	Yes / No / Not applicable
Has WorkCover been notified?	Yes / No / Not applicable
Has the NSW Fire and Rescue Service been notified?*	Yes / No / Not applicable
**Notes* NSW Fire and Rescue Service should be not notified if they were contacted in the first instance to combat the incident.*	
Notes	

Form 7 – Stormwater Infrastructure Performance Checklist

Date and initials	Rainfall (mm)	Performance of stormwater drains Any cracks or blockages evident?	Performance of onsite 1st flush system at collecting and containing sediment and liquid	Performance of Humeceptor (i.e. ability to remove oil and sediment)?	Any erosion onsite or to onsite bunding?	Performance of Bunding?	Performance of drill mud receival area at containing spills and excluding external stormwater?	Performance of hardstand pads Any ponding or pooling evident?

Form 8 – Odour Monitoring

Date & Time & initials	Location	Intensity (0- 6)	Characteristics	Hedonic Tone – degree of pleasantness or unpleasantness	Duration (Seconds / Minutes)
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					

Note:
Intensity:
0 = not perceptible;1 = very weak;2 = weak;3 = distinct;4 = strong;5 = very strong; &6 = extremely strong.
Characteristics: The character of the odour e.g. describing the odour as similar to rotten eggs or putrescible waste etc.
Hedonic tone: The degree to which the odour is perceived as pleasant or unpleasant rated on a scale of -50 to +50 see below (after T.Hummer *et al* (1996):

-50------- -40------ -30-------- -20-------- -10---------0-------+10---------+20---------+30--------+40---------+50
Absolutely Unpleasant unpleasant slightly unpleasant neutral slightly pleasant pleasant Absolutely pleasant

Form 9 – Daily Equipment/Machinery Start Up Checklist

Date	Equipment or Machinery Item	Is there any change in apparent noise output, if so describe it?	Are there any broken or loose fitting items?	What is the next service or calibration date?	Is there any fuel or liquid leakage?

Form 10 – Continuous Improvement

(Page 1 of 2 – see page 2 for instructions on how to complete)

DATE:	**ACTIVITY:**
IDENTIFIED BY:	**IDENTIFIED TO:**
ISSUE: **RATIONALE:**	
PROPOSED RESOLUTION:	
SUPERVISOR'S COMMENTS:	
FOLLOW-UP/RESOLUTION (please date):	
SIGNATURE OF IDENTIFIER	**SIGNED (Site Manager)** **DATE ISSUE RESOLVED:**

Copies:
Original to staff member who lodged form.

Copy to supervisor for personnel file.

Copy to be brought forward as agenda item for staff meetings.

DATE: Date that staff member completed form	**ACTIVITY:** onsite activity/work area
IDENTIFIED BY: Name of staff member	**IDENTIFIED TO:** Supervisor or Manager (Supervisor would bring this to weekly/monthly meeting, and discuss as part of agenda)
ISSUE: Staff member succinctly identifies issue (what, how, when, who, where), giving sufficient details of the concern. **RATIONALE:** Staff member identifies why he/she feels it is an issue. Provides some detail regarding history, implications, consequences	
PROPOSED RESOLUTION: Staff member identifies his/her suggestions to resolve this issue. Provides details regarding benefits, costs, implications, time lines, responsibility, and accountability to enact recommendation.	
SUPERVISOR/MANAGER'S COMMENTS: Supervisor could make comments to support or endorse idea, or may note other opinions. May provide details regarding benefits, costs, implications, time lines, responsibility, and accountability to enact recommendation.	
FOLLOW-UP/RESOLUTION (please date); Leadership team reviews the issue and resolution. May direct issue and recommendations to other work areas (i.e. Building facilities, OH&S, HR, Admin) who would then be responsible to follow up with investigation of issue and possible changes). In this area the leadership or those assigned would respond to issue, noting action taken, or not taken and rationale.	
SIGNATURE OF IDENTIFIER(s)	**SIGNED (Site Manager)** **DATE ISSUE RESOLVED:** *Note that there should be a set timeline to respond to the issue

Copies:
Original to staff member who lodged form.

Copy to supervisor for personnel file.

Copy to be brought forward as agenda item for staff meetings.

Form 11 – Waste Receival Record

Load ID # - type/date/transporter/ initials of staff member receiving waste	**Does waste description provided by transporter match the waste?** Including estimated vol/weight. and composition of waste.	**Volume or Weight of incoming waste** m^3 or litres, kg or tonnes	**Is waste releasing runoff/leachate?**		**Is waste releasing offensive odour?**		**Is waste releasing heat or other emissions?** Describe emissions, e.g. fine dust.		**Are there any disease vector attractants?** Describe vectors e.g. flies, rodents etc.	
	(y/n)		**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**
	(y/n)		**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**
	(y/n)		**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**	**(y/n)**	**Corrective Action**

Form 12 – Insitu Stormwater Monitoring Record

<table>
<tr><th>Date and Initials</th><th>Dissolved oxygen (DO) ppm or mg/L</th><th>Electrical Conductivity (EC) µs/cm</th><th>Redox Potential</th><th>pH</th></tr>
<tr><td rowspan="3"></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td></tr>
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<tr><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td><td>Corrective action – if so what?</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>

Form 13 – Prohibited Waste Characteristic Report

Item	Yes/No
• What is the approximate volume of the prohibited waste (e.g. how many wheelie bin loads, cubic metres or items)?	
• Is there a definable odour to the prohibited waste? If so, describe the smell:	
• Is any of the waste putrefying or badly decomposed?	
• Is there noxious or offensive odour being released from the waste?	
• Are there any obvious reactions happening to the waste? Is it smoking or steaming? Is there a lot of heat present? Is there any sound being produced e.g. “fizzing”, describe what you see or hear:	
• What is the name of the transport company and name and contact details of driver, date and time of delivery and unloading of waste:	

Appendix 3

Figures

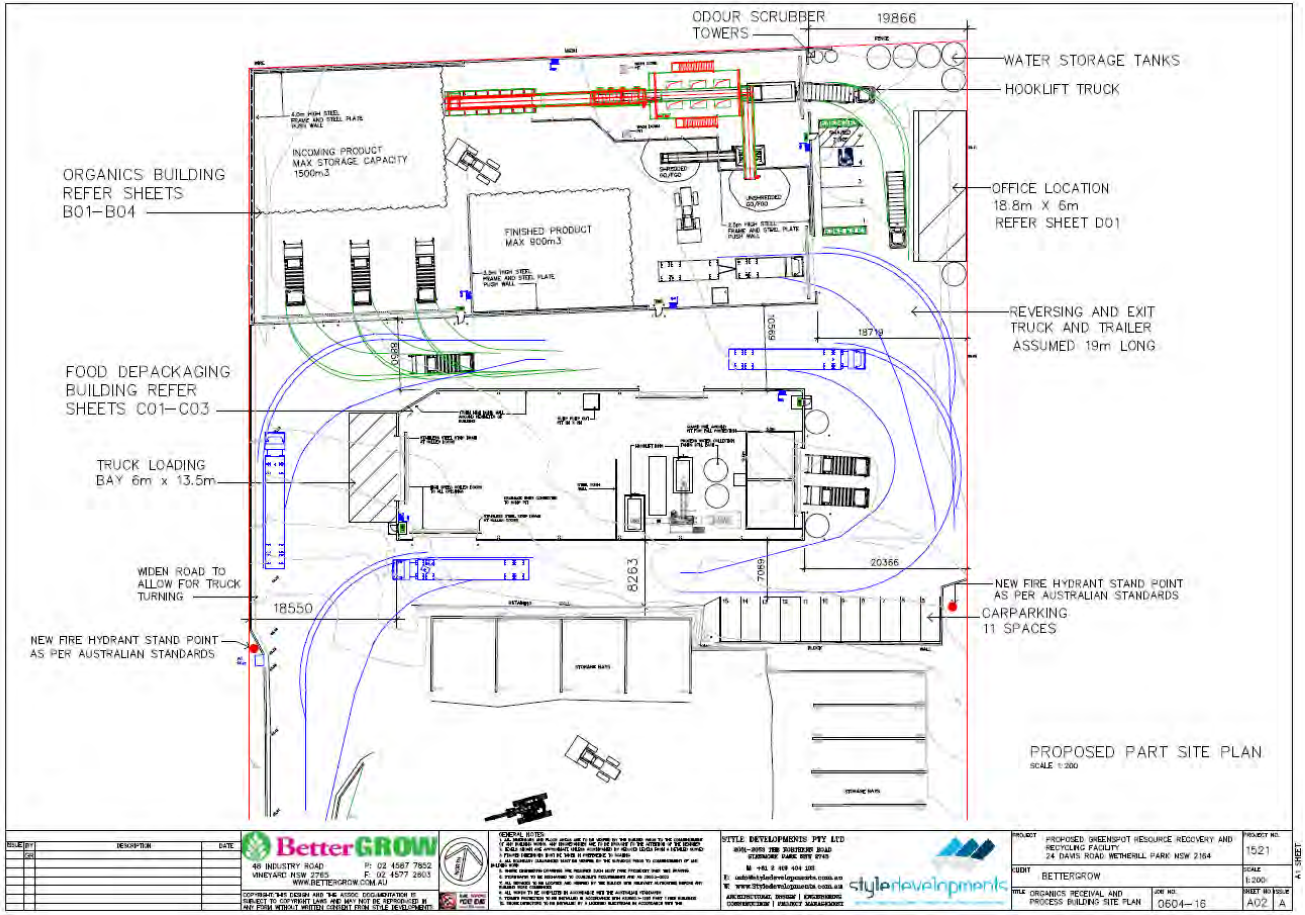

Figure 1a: Site Layout - Kerbside Organics Processing and Food Depackaging Buildings

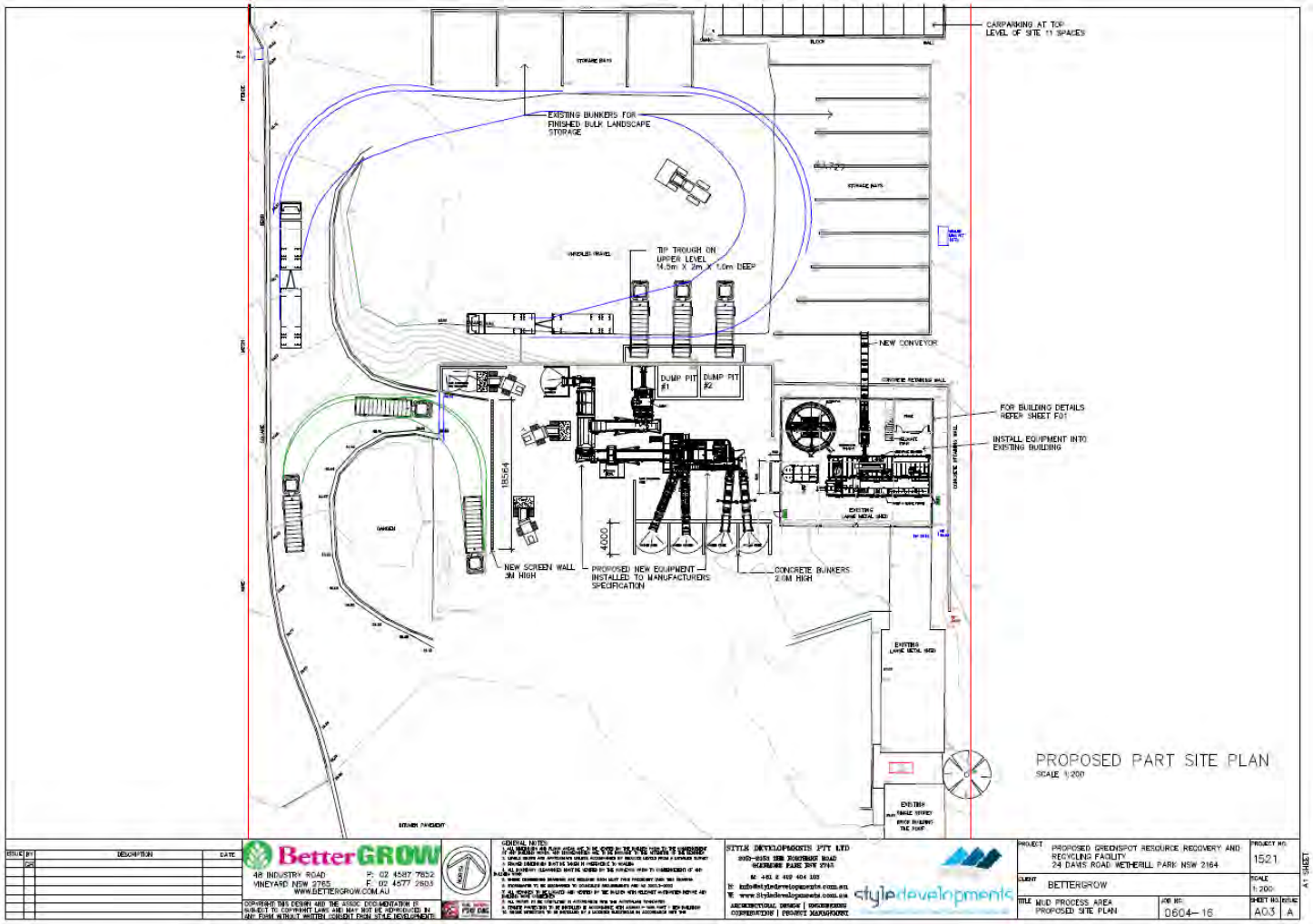

Figure 1b: Site Layout – Drill Mud and Hydro-excavation Area

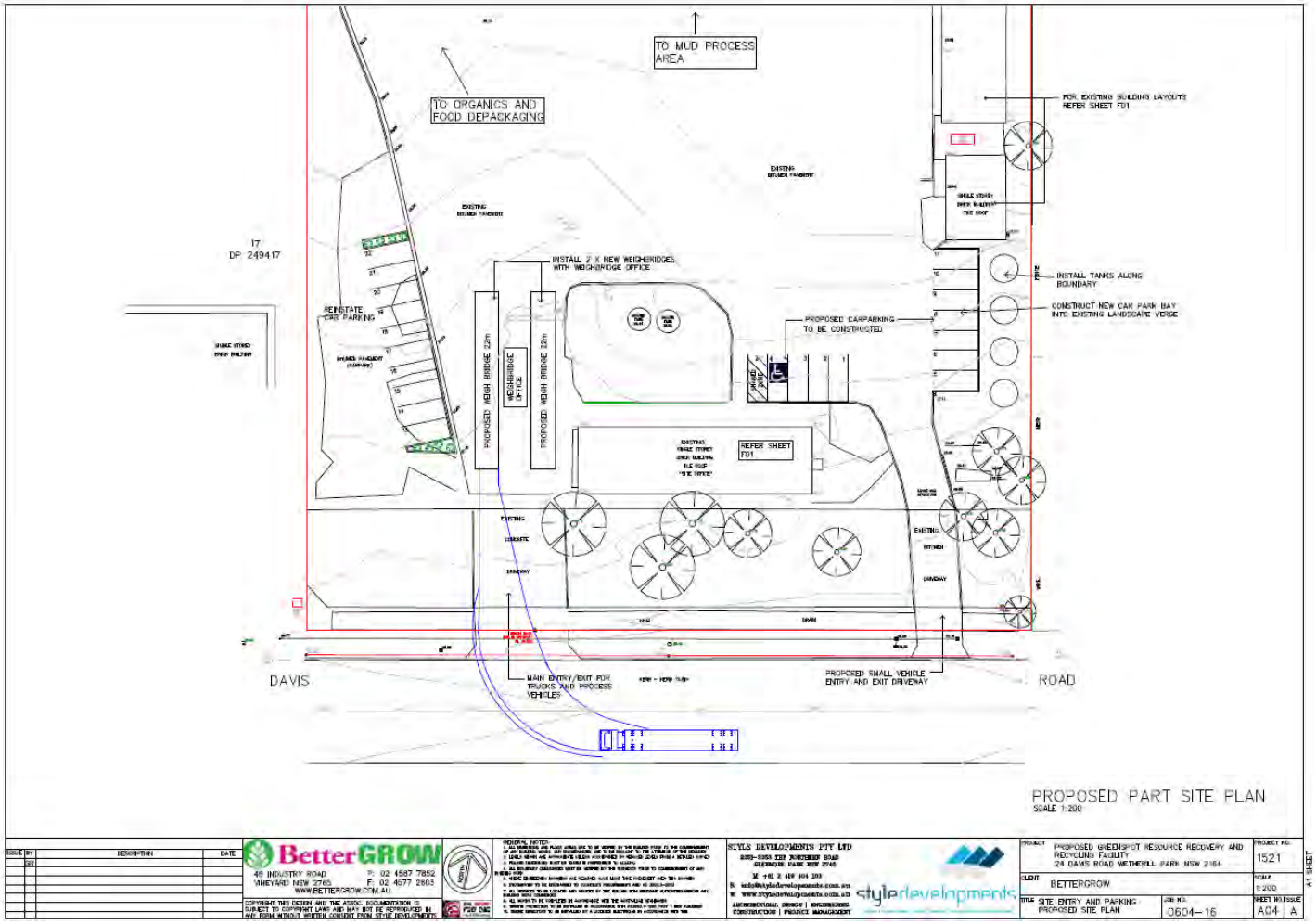

Figure 1c: Site Layout - Site Entry and Parking

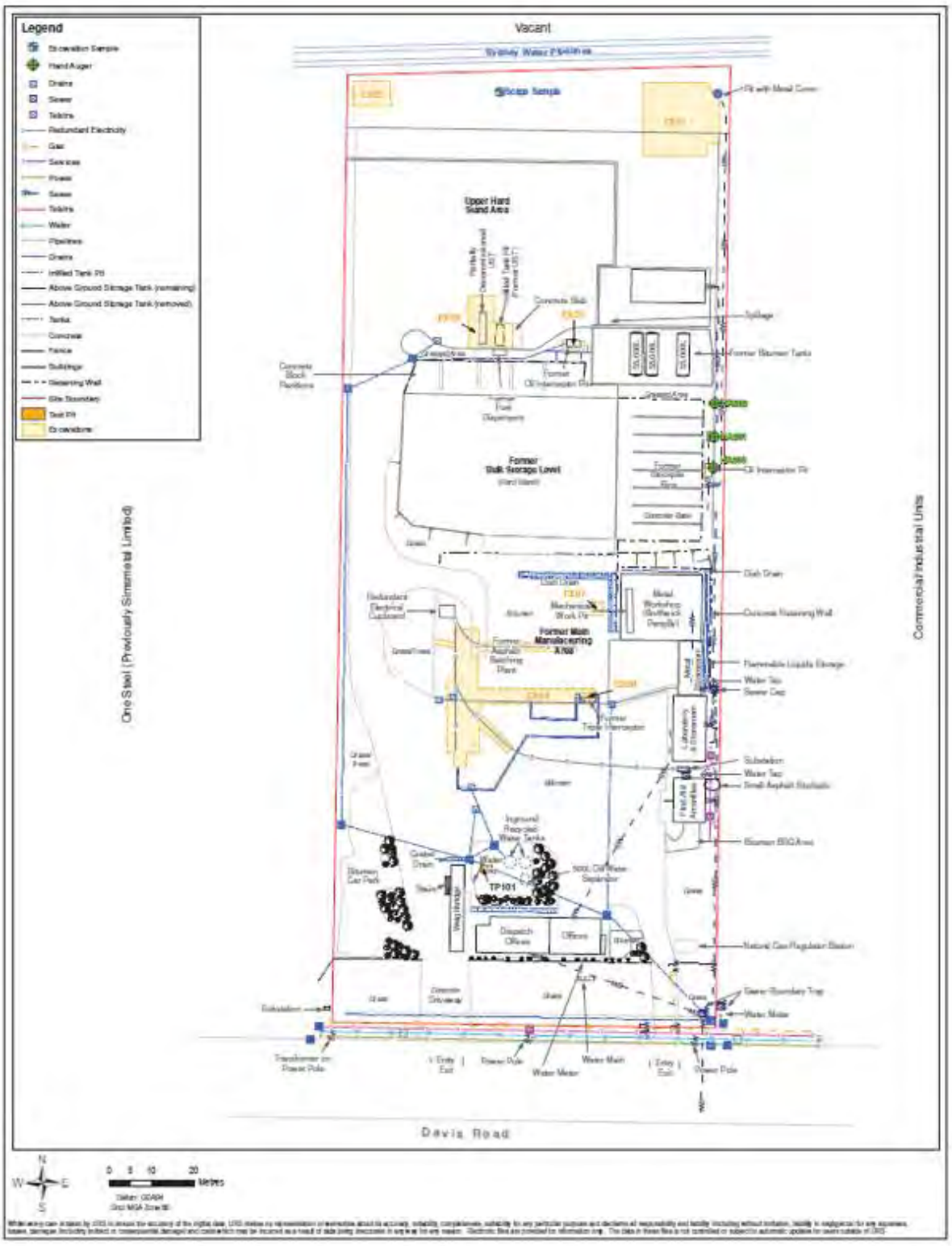

Figure 2: Historical Stormwater Drainage

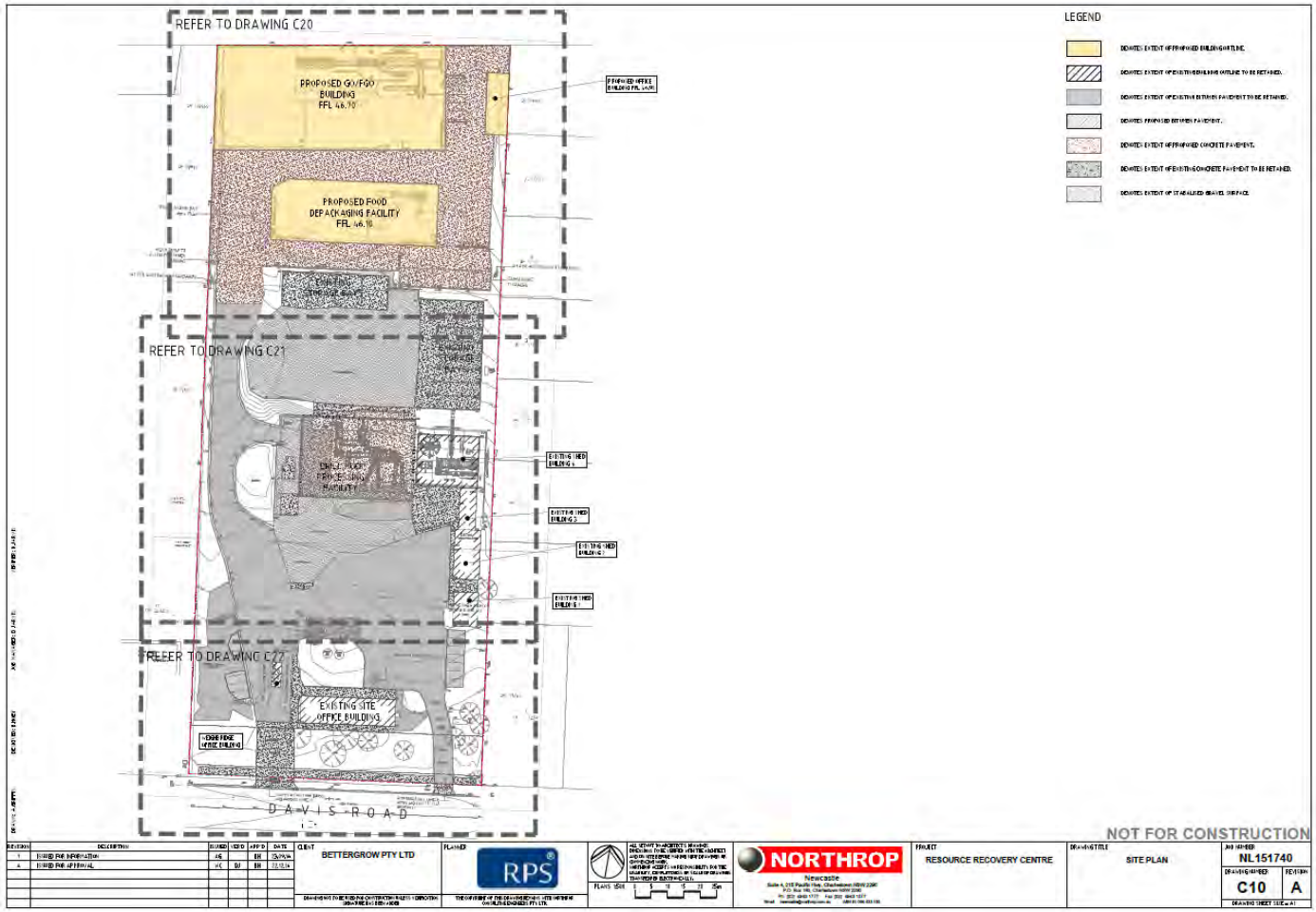

Figure 3: Stormwater Catchment Areas (source Northrop; 2016)

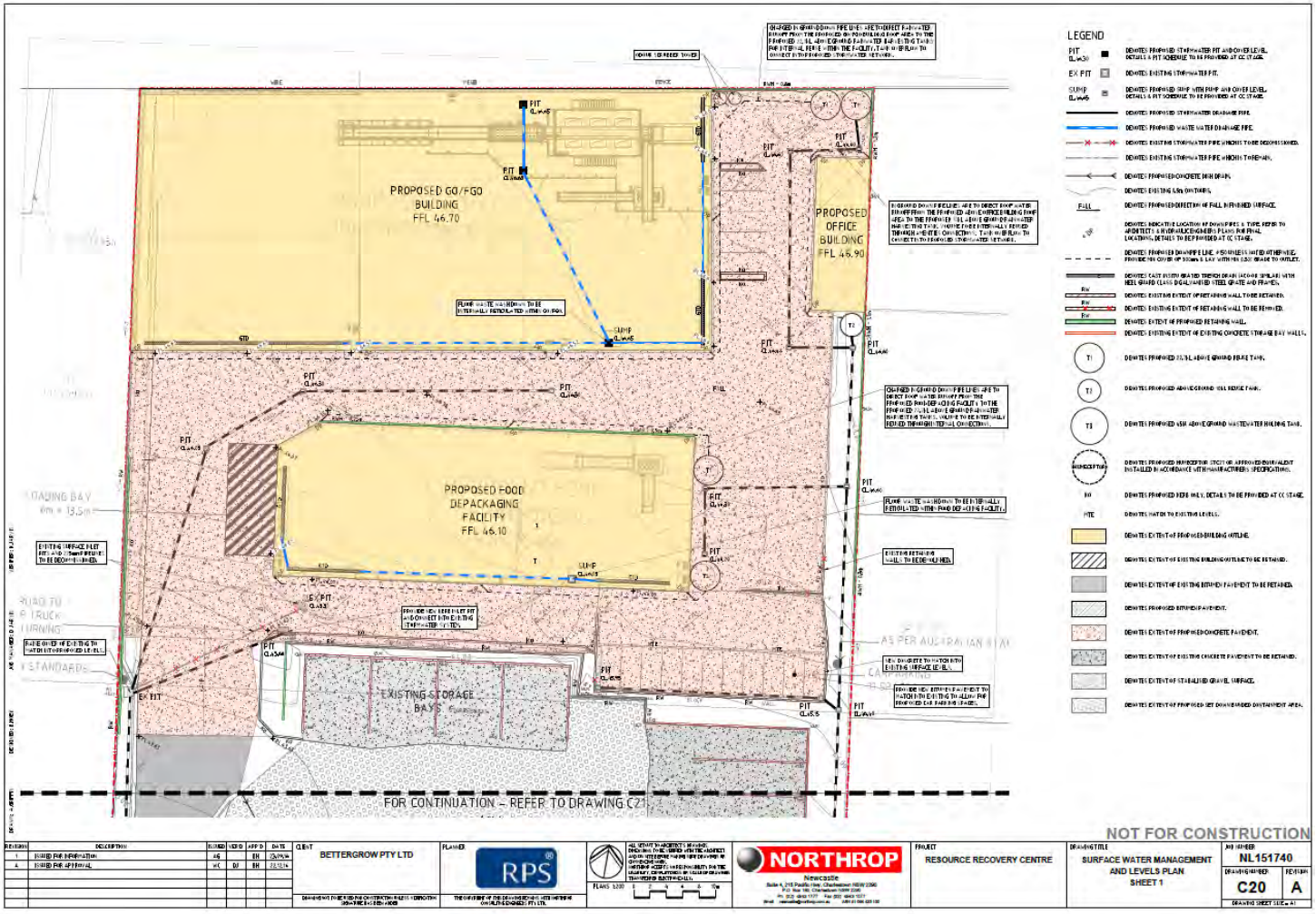

Figure 4: Internal and External Drainage of Organics Processing Buildings

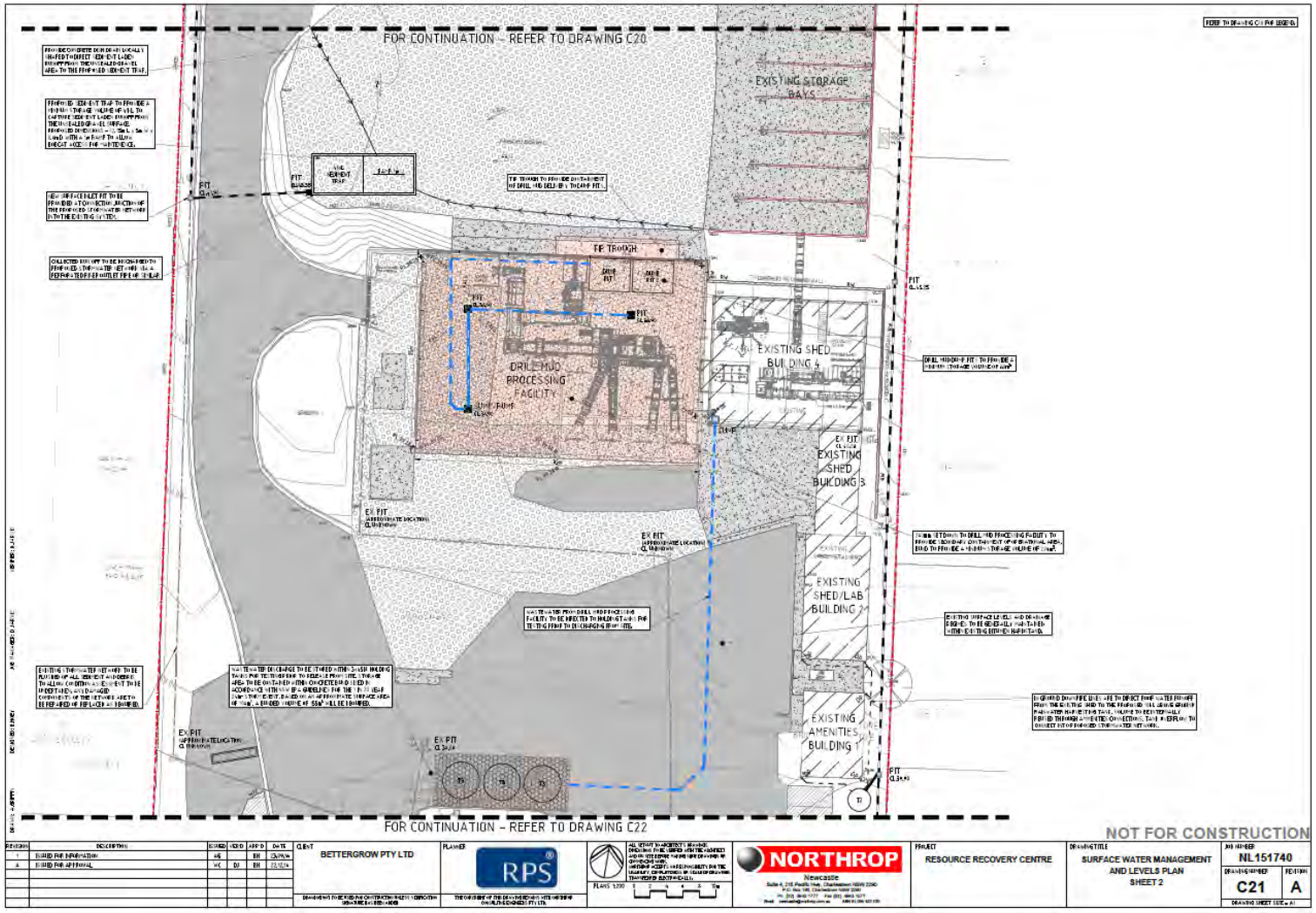

Figure 5: Internal and External Drainage of Drill Mud Processing Area & Bulk Landscaping Area

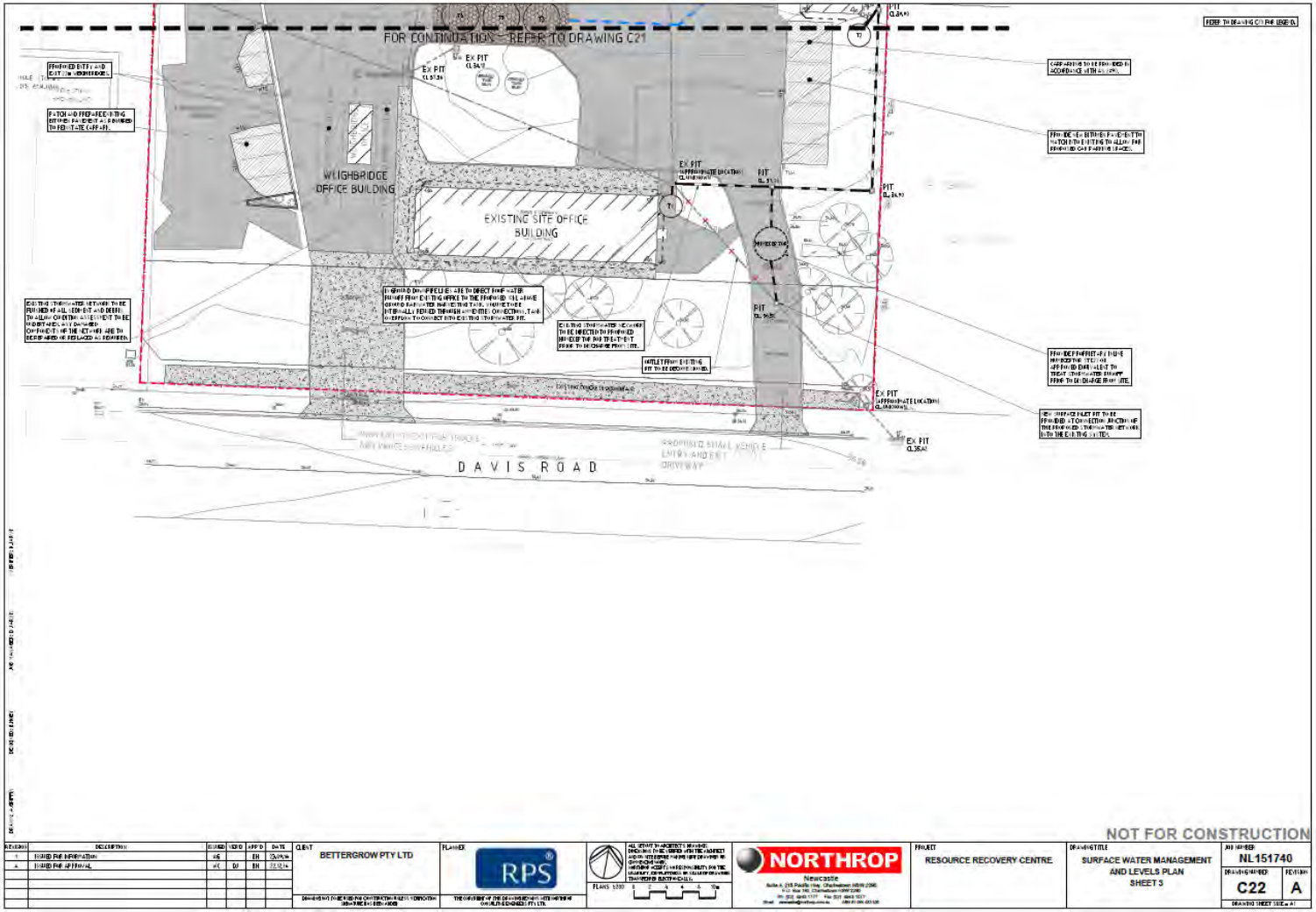

Figure 6: Stormwater Drainage at Entrance to Site

Appendix 5

Contamination Assessment Addendum Report

Douglas Partners
Geotechnics | Environment | Groundwater

Integrated Practical Solutions

Report on
Targeted Site Investigation for Contamination

Proposed Resource Recovery and Recycling Centre
24 Davis Road, Wetherill Park

Prepared for
Bettergrow Pty Ltd

Project 85126.03
August 2017

Douglas Partners
Geotechnics / Environment / Groundwater

Document History

Document details

Project No.	85126.03	Document No.	R.002.Rev0
Document title	Report on Targeted Site Investigation for Contamination Proposed Resource Recovery and Recycling Centre		
Site address	24 Davis Road, Wetherill Park		
Report prepared for	Bettergrow Pty Ltd		
File name	85126.03.R.002.Rev0		

Document status and review

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Draft A	David Walker	Paul Gorman	1 August 2017
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Rev0	1	0	John Vyse

The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

	Signature	Date
Author		18 August 2017
Reviewer		18 August 2017

bsi. ISO 9001 Quality Management

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Report on Targeted Site Investigation for Contamination
Proposed Resource Recovery and Recycling Centre
24 Davis Road, Wetherill Park

1. Introduction

This report presents the results of a targeted site investigation for contamination undertaken for the proposed Resource Recovery and Recycling Centre at 24 Davis Road, Wetherill Park NSW. The investigation was commissioned by Mr John Vyse of Bettergrow Pty Ltd to provide additional information to NSW Planning and Environment following the exhibition of the Environment Impact Statement for the project. In particular, the purpose of the investigation was to determine if there is any existing contamination at the site that requires remediation (and if a Remediation Action Plan is required) for the proposed Resource Recovery and Recycling Centre.

Mellissa Porter of Senversa Pty Ltd (a NSW EPA accredited Site Auditor) has been appointed to provide a Site Audit Statement (SAS) for the project. The information presented herein will be reviewed by the Site Auditor for the SAS.

The site, covering approximately 2 ha, is shown in Drawing 1 in Appendix A and comprises Lot 18 in Deposited Plan 249417 within the Fairfield City Council local government area.

2. Scope of Works

The scope of work for this targeted site investigation was as follows:

- Conduct a Ground Penetrating Radar (GPR) survey at locations of previous tanks to check for the absence/presence of any remaining buried tanks;
- Set out 45 soil sampling locations with the use of an electronic services locator and Dial-Before-You-Dig plans to avoid buried services;
- Using a drilling rig, collect soil samples from 37 test locations;
- Using a hand auger, collect soil samples from eight test locations;
- Screen soil samples for volatile compounds using a photoionisation detector (PID);
- Despatch selected soil samples (and a material sample) and QA/QC samples to NATA accredited laboratories for analysis of combinations of the following:
  - eight priority metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc);
  - total recoverable hydrocarbons (TRH);
  - benzene, toluene, ethylbenzene and xylenes (BTEX);
  - polycyclic aromatic hydrocarbons (PAH);
  - organochlorine pesticides (OCP);

- o polychlorinated biphenyls (PCB);
- o volatile organic compounds (VOC);
- o total phenols;
- o asbestos;
- o coal tar;
- o cation-exchange capacity (CEC); and
- o pH; and

- Preparation of this targeted site investigation report.

3. Previous Reports

Previous reports which have relevance to contamination matters are listed below:

- Douglas Partners Pty Ltd (DP), *Review of Contamination Reports, Proposed Resource Recovery & Recycling Centre, 24 Davis Road, Wetherill Park, NSW,* 19 October 2015 (reference 85126.00.R.001) (DP, 2015);
- DP, *Report on Groundwater Assessment, Proposed Resource Recovery & Recycling Centre, 24 David Road, Wetherill Park, September 2016* (reference 85126.01.R.001.Rev0) (DP, 2016);
- DP, *Response to Request for Information Regarding Contamination*, *Proposed Resource Recovery & Recycling Facility, 24 Davis Road, Wetherill Park, NSW,* 10 April 2017 (reference 85126.02.001) (DP, 2017a);
- DP, *Sampling and Analysis Quality Plan, Proposed Resource & Recycling Facility, 24 Davis Road, Wetherill Park, NSW,* 27 June 2017 (reference 85126.03.R.001.Rev1) (DP, 2017b);
- DP, *Results of Initial Two Rounds of Groundwater Monitoring, Proposed Resource Recovery & Recyling Facility, 24 Davis Road, Wetherill Park, NSW, 15 August 2017* (reference 85126.03.R003.Rev0) (DP, 2017c);
- Hibbs & Associates Pty Ltd, *Final Report for Hazardous Materials Survey, Former Emoleum Depot, David Road, Wetherill Park NSW 2164*, (reference S6572) 2012 (Hibbs & Associates, 2012).
- Presna, *Clearance Certificate – Asbestos Removal Works at 24 Davis Road, Wetherill Park*, 10 September 2012 (reference 50578) (Presna, 2012a);
- Presna, *Clearance Certificate – Asbestos Removal Works at 24 Davis Road, Wetherill Park NSW*, 16 October 2012 (reference 50620) (Presna, 2012b);
- URS Australia Pty Ltd (URS), *Phase 2 Environmental Site Assessment, Emoleum Depot, 24 Davis Road, Wetherill Park, NSW*, 2006 (reference 42423822) (URS, 2006);
- URS, *Final Report, Annual Groundwater Monitoring Event October 2008, Former Emoleum Depot, 24 Davis Road, Wetherill Park NSW*, 2010 (reference 42424135) (URS, 2010);
- URS, *Annual Groundwater Monitoring Event, Former Mobil Emoleum Depot (Site No. 6F01), 24 Davis Road, Wetherill Park NSW*, 2012 (reference 42424273/01/01) (URS, 2012a);

- URS, *Post Phase 2 Environmental Site Assessment, Former Mobil Depot Wetherill Park (6F01), 24 Davis Road, Wetherill Park* (reference 42424436) (URS, 2012b);
- URS, *Hazardous Building Materials Survey, Former Mobil Emoleum Depot, 24 Davis Road, Wetherill Park NSW* (reference 42424436), 2012 (URS, 2012c);
- URS, *Post Phase 2 Environmental Site Assessment, Former Mobil Depot Wetherill Park (6F01), 24 Davis Road, Wetherill Park*, 2012 (reference 42424444) (URS, 2012d);
- URS, *Letter Report – Groundwater Monitoring Well Decommissioning, Former Emoleum Depot, Wetherill Park NSW (6F01)* (reference 42424443), 2013 (URS, 2013a);
- URS, *Soil Validation Report, Former Emoleum Depot (6F01), 24 Davis Road, Wetherill Park, NSW* (reference 4242443), 2013 (URS, 2013b); and
- URS, *Environmental Summary Report, Former Emoleum Depot (6F01), 24 Davis Road, Wetherill Park, NSW*, 2 May 2013 (reference 42424443) (URS, 2013c).

Previous investigations listed in URS (2006) include:

- URS, *Phase 1 Environmental Site Assessment*, 2004 (URS, 2004) [Note that the executive summary (only) from URS, 2004 was included as Appendix B1 in URS, 2006]; and
- Dames and Moore, *Mobil Site Audit Assessment Form*, 1990 (Dames & Moore, 1990) [Note that only two pages (1 to 2) and a sketch from Dames & Moore, 1990 was included in Appendix B2 in URS, 2006].

A summary of previous reports is provided in the following subsections.

3.1 Phase 2 Environmental Site Assessment (URS, 2006)

The scope for the Phase 2 Environmental Site Assessment (ESA) included soil sampling from 32 test bores (SB14 to SB32 and MW01 to MW13) and installation and sampling of 13 groundwater monitoring wells (MW01 to MW13). Fieldwork was completed in 2005. Figure 3 from URS, 2013c is provided in Appendix A and shows the sample locations as well as site features.

The site was described by URS to be rectangular in shape and slope moderately steeply from the northern boundary down to Davis Road. The site appeared to have been subject to levelling and based on the geology encountered during field work, URS inferred that the site levelling was from cutting, rather than filling the site. The site had three main levels:

- Upper Hard Stand Area (higher level) at the northern portion:
- Bulk Storage level (middle level) located at the centre of the site; and
- Manufacturing level (lower level) located in the southern portion of the site.

According to the executive summary from URS, 2004, the site was vacant and possibly used for rural purposes (e.g. grazing) until about 1978. From that time (to 2004) the site was used as an asphalt batching plant. The asphalt manufacturing process comprised mixing aggregate materials with hot bitumen, diesel (possibly kerosene in the past) and emulsion. Chemicals potentially associated with the current and historical site use were listed to include:

- PAH associated with storage and handling of bitumen;

- Total petroleum hydrocarbons (TPH), BTEX and PAH associated with the storage and handling of bitumen emulsifiers including diesel and possibly previously kerosene;
- TPH and BTEX associate with former storage and handling of petroleum fuels and possibly kerosene in underground storage tanks (USTs);
- TPH, BTEX and PAH associated with wastewater collected in two or three triple/oil interceptor traps/pits;
- TPH and PAH associated with stockpiling of asphalt outside on unpaved, uncovered areas (e.g. behind the laboratory). However, TPH and PAH contained in asphalt are relatively immobile;
- Organochlorine pesticides (OCP) and organophosphorus pesticides (OPP) associated with potential vegetation control.

The sketch from Dames & Moore, 1990 (included in URS, 2006) is provided in Appendix A. It was considered by Dames & Moore that the site had a high potential for significant environmental contamination. Some of the reasons for this assessment included:

- Concentrations of contaminants in soil exceed the (then adopted) guideline concentrations for organic contaminants at locations 704-10 (at the solvent wash area) and 704-13 (near “tank 15” next to the workshop) up to a depth of 1.0 m;
- There have been reported spills of bitumen, which had been reportedly cleaned up. Also reported and observed was continued spillage of waste oil from tank 15. Product imbalances from tank 15 were unknown. The bund around tank 15 contained substantial waste oil, which was leaking from the bund area; and
- Significant surficial contamination was observed around various areas of the site including around the bitumen plant, bowsers and other working trafficked areas.

A list of on-site fuel/chemical storage tanks (sourced from URS, 2004), either present, disused or removed by 2004, was provided in URS, 2006. These included:

- Nine aboveground tanks for bitumen;
- One aboveground tank for diesel;
- One aboveground emulsion tank;
- One aboveground asphaltrent tank;
- One aboveground wastewater tank (from former Truck Wash Bay);
- Two in-ground recycled water tanks;
- One abandoned former underground tank for flammable liquid (filled with sand in 2001);
- One aboveground LPG tank;
- Two underground tanks formerly used for petrol;
- Two underground tanks formally used for diesel; and
- One underground tank formerly used for kerosene.

Some uncertainty as to the total number and status of underground tanks that had been used at the site was noted by URS.

URS positioned soil bores to target potential contamination sources identified in URS, 2004 and noted that the 32 test locations (MW01 to MW13 and SB14 to SB32) were slightly in excess of the minimum of 30 sampling locations recommended by NSW EPA for a 2 ha site. Non Destructive Digging (NDD) was used to 1.2 m below ground level (bgl). Boreholes were drilled to between 3.1 m bgl and 10.2 m bgl. Wells were installed to depths of between 5.5.m bgl and 10.2 m bgl. One round of groundwater sampling was undertaken.

Beneath a surface layer of grass, concrete or asphalt, filling was encountered to depths of up to 2.4 m bgl. Filling was underlain by silty clay and weathered shale and siltstone. Screening for VOC using a PID on soil samples indicated an absence of VOC in soil. Hydrocarbon odours were not encountered in the soil samples.

Selected soil samples were analysed for TPH; BTEX; PAH; phenols; metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, vanadium and zinc); and volatile chlorinated hydrocarbons (VCH). Selected groundwater samples were analysed for TPH, BTEX, PAH, phenols, metals, total organic carbon (TOC), dissolved methane, nitrate, sulphate, ferrous iron and ferric iron.

Concentrations of TPH C_{10}-C_{36} in soil were above the adopted investigation level (1000 mg/kg) in two samples from MW13 at a depth of 0.1-0.2 m bgl (4970 mg/kg) and SB24 at a of depth 0.1 m bgl (3450 mg/kg). TPH C_{10}-C_{36} was also detected at SB22, SB25, SB28, SB29 and SB25 but at concentrations below the adopted investigation level. Concentrations of TPH C_6-C_9, PAH, benzo(a)pyrene, BTEX, metals and phenols in soil were below the adopted investigation levels (where applicable).

Elevated concentrations of PAH were encountered in groundwater at MW08. Elevated concentrations of some metals (including cadmium, chromium, lead, nickel, copper and zinc) were encountered in several wells across the site. TPH, BTEX and VCH were not detected in groundwater samples. Phased separated hydrocarbons were not encountered in any groundwater monitoring well.

Potential primary sources of hydrocarbon impacts detected in soil and groundwater at and surrounding the site, were considered by URS to comprise:

- The current and former bitumen aboveground storage tanks (ASTs), and associated infrastructure;
- The diesel, kerosene and waste oil ASTs on the site and associated infrastructure;
- The residual fuels potentially contained in the fill and sand around two decommissioned USTs and former tanks;
- The possible disused diesel and kerosene UST's and associated underground fuel lines in the vicinity of the aforementioned USTs.

Potential secondary sources were considered to include:

- The two or three triple/oil interceptor traps/pits;
- Spills and leaks from the former fuel dispenser associated with the USTs and former "truck oil up stand";
- Spills and leaks from the two bitumen tank farms and unloading points;
- Stockpiling of asphalt and Cold Mix on an unpaved area; and
- Minor stockpiling of asphalt behind the site laboratory.

Other sources of impact proximal to the site that were identified included oils, fuels and solvents potentially being stored on the metal recycling depot located adjacent the western boundary (across gradient) and oils / fuels potentially being stored on the industrial units located to the east (across gradient).

URS considered that the hydrocarbon impact identified in soil may have been a result of diesel and/ or oils given the elevated concentrations of TPH C_{10}-C_{36}. A potential source of the PAH identified in groundwater at MW08 may have been the former bitumen tanks and the possible former fuel USTs located in the hard stand area to the north.

URS considered a potential source of the metals in groundwater may be from fill across the site, although relatively low concentrations were detected in soils. The metal recycling facility located to west may be a source although this facility is hydraulically cross gradient. The concentrations of metals in groundwater may be a result of the local groundwater quality.

3.2 Groundwater Monitoring Event in 2008 (URS, 2010)

The scope of the URS, 2010 investigation included gauging, purging and sampling of 13 existing monitoring wells (MW01 to MW13) in October 2008 as well as laboratory analysis of groundwater samples. It was noted that the site was decommissioned prior to groundwater monitoring and subsequent to the investigation for URS, 2006.

No phase separated hydrocarbons were encountered in any of the wells whilst sampling.

Samples from each well were analysed for TPH, BTEX, PAH, phenolic compounds, metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, vanadium and zinc) and VCH. TPH C_{10}-C_{36} was detected in groundwater samples from MW07 (100 µg/L), located in the vicinity of the asphalt batching plant and down gradient of the former “truck oil up stand”; and MW09 (200 µg/L), located down gradient of the former fuel USTs located in the hard stand area in the northern portion of the site. These TPH impacts were considered by URS to be associated with the former operations and / or infrastructure adjacent these locations; however, they may have indicated the presence of a localised dissolved phase hydrocarbon plume encompassing the western portion of the Bulk Storage Level.

TPH C_{10}-C_{36} was also detected in the groundwater sample from monitoring well MW02 (730 µg/L), located down gradient near the southern site boundary and south of the offices and weighbridge. No immediate up-gradient groundwater impact was identified, and URS considered that the source of the impact was likely localised to the vicinity of MW02.

Concentrations of TPH C_6-C_9 and BTEX were below the laboratory limits of reporting (LOR) for all samples.

Concentrations of PAH were reported below the limits of reporting for all wells except for MW02 which had a total PAH of 1.6 µg/L. This was below the adopted investigation level of 3 µg/L. Phenols and VCH were at concentrations below the limits of reporting.

Lead concentrations were below the adopted investigation level. Elevated concentrations of some metals (arsenic, cadmium, chromium, copper, zinc and nickel) were reported in several wells but these were considered by URS to be likely indicative of background levels present in local groundwater.

3.3 Groundwater Monitoring Event in 2010 (URS, 2012a)

The scope of URS, 2012a included gauging, purging and sampling of 13 existing groundwater wells (MW01 to MW13) as well as laboratory analysis in March 2010. The purpose of the groundwater monitoring event was similar to that for URS, 2010.

No phase separated hydrocarbons were encountered in any of the wells whilst sampling. No hydrocarbon odours or sheens were observed in the groundwater purged from the wells. PID readings were 0 ppm at each of the well heads except at MW06 where a PID reading of 7.9 ppm was recorded.

Samples from each well were analysed for TPH, BTEX, PAH, phenolic compounds, metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, vanadium and zinc) and VCH. Silica gel clean-up was used to analyse TPH (C_{10}-C_{36}) for the sample collected from MW02 (and the silica gel clean up value was used by URS for the assessment).

TPH C_{10}-C_{36} was detected in samples from MW03 (160 µg/L) and MW09 (240 µg/L). MW09 is located in the hard stand area in the northern portion of the site down gradient of the former kerosene UST. The TPH impact at MW09 was considered by URS to be localised as it was not detected in down gradient or up gradient wells. MW03 is located down gradient near the southern boundary and it was considered by URS that the impact was localised.

Phenanthrene (a PAH compound) was detected in the groundwater sample from MW02 (1.4 µg/L) and phenol was detected in the sample from MW08 (1.4 µg/L). These were considered by URS to be localised impacts as no immediate up-gradient impacts were identified.

VCH was not detected above the LOR in all groundwater samples.

Concentrations of metals (including arsenic, copper, nickel, and zinc) were greater than the adopted investigation levels in several wells. The concentrations of metals were considered by URS to be indicative of background levels.

3.4 Post Phase 2 Environmental Site Assessment (URS, 2012b)

The scope of the Post Phase 2 Environmental Site Assessment included test pitting to determine the number of USTs (if any) in areas of historically recorded USTs and associated infrastructure (Area 1 and Area 2). Soil samples were collected from targeted locations and were subject to analysis. The locations of the two investigation areas are indicated on Figure 3 from URS, 2013, Appendix A. Figures 5A and 5B from URS, 2012b are also provided in Appendix A and show the configuration of the test pits at each investigation area.

A total of 15 test pits (TP1 to TP12, TP13A, TP 13B and TP14) were excavated to depths ranging from 0.4 m to 1.5 m. TP1 to TP7 were excavated at Area 1 and the remainder were excavated at Area 2. The test pits were positioned based on the findings of historical site plans and a GPR survey which identified possible ground disturbance in both areas.

At Area 1, asphalt was underlain by up to 1 m of sand and gravel fill which was underlain by natural brown to white clay. Hydrocarbon odours and brown to black staining were detected in TP1, TP2, TP3 and TP4. Perched groundwater was encountered at 0.5 m in TP1 to TP3. A hydrocarbon odour was detected at TP6.

At Area 2, asphalt, concrete or grass was underlain by fill comprising various compositions of clay, sand and gravel to a depth of up to 1.2 m. Natural clay or clayey sand was encountered in each test pit. Fill was recorded to a depth of 1.2 m at TP11 which indicated, along with surface concrete scarring, that an in-filled tank pit was present in that area. The presence of a UST filled with sand and gravel was recorded in TP13a. Perched water was observed in TP13a. Fuel lines were encountered at TP12.

PID readings above 5 ppm were noted in samples from TP1, TP2, TP3, TP4, TP5, TP6, TP7 and TP13A.

Thirteen selected (primary) samples were analysed for TPH, BTEX, PAH, lead and phenols.

BTEX concentrations were below the limit of reporting in all samples. Concentrations of TRH C_6-C_9 were within the adopted assessment criteria for all samples, although this TRH fraction was detected in two samples (from TP4 and TP6).

Concentrations of TPH (C_{10}-C_{36}) exceeded the adopted assessment criteria in two samples (2800 mg/kg in TP2, depth 0.8m, and 11500 mg/kg in TP4, depth 0.3 m). This TPH fraction was also detected in three other samples (at concentrations below the assessment criteria).

Concentrations of lead and PAH, although detected in some samples, were within the adopted assessment criteria. Phenolic compounds were at concentrations below the limits of reporting.

The heavy end TRH impacts at Area 1 were noted by URS to be predominantly in the fill or at the interface between the fill and natural soil (at a maximum depth of 1 m). The visually impacted perched water encountered in this area may be the source of the soil impacts. The impacts were considered to be delineated to the west and north of this area.

3.5 Hazardous Building Materials Survey (URS, 2012d & Hibbs & Associates, 2012)

URS, 2012d provides the results of a hazardous building materials survey of the site conducted in March 2012. Hibbs & Associates Pty Ltd conducted the survey (as contracted by URS) and the findings were reported in Hibbs & Associates, 2012.

Asbestos was identified in a flange gasket on a section of a redundant pipe on the ground surface on the north-eastern side of the site. An asbestos-containing electrical backing board was observed on the ground surface adjacent to the redundant electrical mains workshop (or former substation). Asbestos cement sheeting was also located in buildings.

Lead based paint was not identified in the survey.

Light fittings were assumed to contain PCB. The electrical transformer located at the external north side of the amenities building may contain PCB oil.

3.6 Post Phase 2 Environmental Site Assessment (URS, 2012d)

URS carried out a data gap review in 2011 which identified a number of areas that required further soil characterisation. URS, 2012d presents the results of an investigation of specific areas of the site based on the data gap study. The scope of the work included drilling of 29 soil bores (SB101 to SB129) to varying depths across the site, gauging and sampling 13 monitoring wells (MW01 to MW13), and analysis of soil and groundwater samples. Fieldwork was conducted in June and July 2012. Sample locations are shown in Figure 3 from URS, 2013c in Appendix A.

NDD or a hand auger was used at each test bore location to depths of between 0.9 m to 1.5 m. Test bores were then drilled at some locations using either a push tube or solid stem auger.

Grass, concrete or asphalt was underlain by filling up to a depth of 2.4 m. Natural sandy clay was encountered beneath filling at depths ranging between 0.5 m and 3.0 m and was underlain by shale and siltstone. Hydrocarbon staining and/or odours were encountered at several test bores.

Groundwater was generally encountered within the shale bedrock, although perched groundwater was encountered in filling or at the top of the natural soil in several bores. No phase separated hydrocarbons, odours or staining were encountered in any of the monitoring wells.

A total of 56 primary soils samples and 13 primary groundwater samples were analysed for TPH, BTEX, PAH, lead and phenols. One “fill” sample was also analysed for metals (arsenic, cadmium, chromium, copper, mercury, nickel and zinc), OCP and OPP. It is noted by DP that the source of the “fill” sample is not described by URS.

The concentration of TRH C_6-C_9 in the sample from SB116, depth 0.1-0.2 m (180 mg/kg) was above the adopted assessment criterion (65 mg/kg). Concentrations of TRH (C_6-C_9) were within the assessment criterion for all other samples. Concentrations of BTEX were within the adopted assessment criteria for all samples.

Concentrations of TRH C_{10}-C_{36} were in excess of the adopted assessment criterion (1000 mg/kg) in numerous samples including from SB101, depth 0.4 to 0.5 m (2420 mg/kg); SB104, depth 0.2 to 0.3 m (1760 mg/kg); SB116, depth 0.1 to 0.2 m (1180 mg/kg); SB118, depth 0.2 to 0.4 m (1210 mg/kg); SB121, depth 1.0-1.1 m (2990 mg/kg); SB122, depth 0.2 to 0.4 m (3320 mg/kg); and SB125, depth 0.5-0.6 m (1490 mg/kg), depth 1.0 to 1.1 m (3800 mg/kg,1860 mg/kg and 3500 mg/kg), and depth 1.9 to 2.0 m (2250 mg/kg). TRH C_{10}-C_{36} was also detected in some other samples but at concentrations within the adopted assessment criterion.

The total PAH concentration for the soil sample from SB122, depth 0.2 to 0.4 m (25 mg/kg) was above the adopted (conservative) assessment criterion (20 mg/kg). The concentration for benzo(a)pyrene in this sample (1.8 mg/kg) was also above the adopted (conservative) assessment criterion.

Phenols were not detected in soil above the limits of reporting. Lead concentrations were within the adopted assessment criterion. Concentrations for metals (in the one analysed sample) were within the adopted criterion. Concentrations of OCP and OPP were below the limits of reporting (for the one analysed sample).

TRH, BTEX, PAH and phenols concentrations were below the LOR in all groundwater monitoring samples. Lead was only detected in one groundwater sample, but at a concentration well within the adopted site assessment criterion.

3.7 Groundwater Monitoring Well Decommissioning (URS, 2013a)

URS, 2013a is a letter report confirming that the 13 monitoring wells (MW01 to MW13) had been decommissioned on 3 December 2013.

3.8 Soil Validation (URS, 2013b)

URS was engaged to remove USTs, ASTs and soil contamination as well as conduct soil validation works as part of the on-going site demolition works. Transpacific Industrial Services Pty Ltd were appointed to perform the civil works. Site activities were undertaken in September and October 2012. Infrastructure that was removed included three 55 000 ASTs and associated pipework, two partial USTs, two interceptor pits and associated pipework.

Prior to dismantling the ASTs, the bituminous material from the ASTs was sampled and subsequently disposed at a licenced waste facility.

Seven excavations (EX01 to EX07) were undertaken as follows:

- EX01: removal of previously identified hotspot of hydrocarbon contaminated soil at north eastern corner of the site. One resultant stockpile (SP01) was disposed off-site. The other resultant stockpile (SP02) was reused onsite.
- EX02: removal of two partial USTs, pipework and hydrocarbon contaminated soil at the upper hard stand level. Two resultant stockpiles (SP03 and SP05) were reused on site. The other resultant stockpile (SP04) was disposed off-site.
- EX03: removal of shallow (0.2 to 0.3 m deep) hotspot of impacted soil in north-west corner of site. The resultant stockpile (SP06) was disposed off-site.
- EX04: removal of the previously identified impacted soil in the central portion of the former manufacturing area of the site which appeared to correlate to the location of historical service trenches. Three resultant stockpiles (SP11, SP12 and SP13) were disposed off-site. Two resultant stockpiles (SP08 and SP14) were reused on site.
- EX05: removal of an interceptor pit and associated contaminated soils located near the ASTs at the upper hard stand area. The resultant stockpile (SP07) was reused on site.
- EX06: removal of the interceptor pit and associated contaminated soils at the former manufacturing area. The resultant stockpile (SP09) was reused on site.
- EX07: removal of shallow (0.1 to 0.2 m deep) contaminated soil in the area of SB116 at the former manufacturing area. The resultant stockpile (SP10) was reused on site.

The locations of the excavations are shown on Figure 3 from URS, 2013c in Appendix A. Also attached are Figures 4B to 4E from URS, 2013a which show the sample locations at each excavation.

In addition, a scrape sample from a depth of 0.2 m was collected in the vicinity of MW13 (near north boundary) where a “shallow exceedance was recorded”. The soil was not removed from this area.

A total of 87 soil samples collected from excavations and 51 stockpile samples were analysed for TPH, BTEX, lead, PAH and speciated phenols.

Hand auger bores (HA200 to HA202) were completed to the north of the interceptor pit on the eastern boundary which remained *in situ*. Three samples were analysed for TPH, BTEX, lead, PAH and speciated phenols.

Samples were collected of the imported Virgin Excavated Natural Material (VENM) which was visually assessed on arrival to the site prior to use as filling in excavations. Six samples were analysed for TPH, BTEX, lead, PAH, speciated phenols, metals (antimony, arsenic, barium, cadmium, chromium, cobalt, copper, mercury, molybdenum, nickel, selenium, tin, vanadium and zinc), OCP and OPP.

Concentrations of TPH and naphthalene were detected above the adopted assessment criteria in samples collected from EX04 and further chase out (excavation) of this contamination was undertaken. Some TPH C_{10}–C_{36} concentrations were reported above the SAC (1000 mg/kg) at locations EX04_15_1.0 (1190 mg/kg), EX04_28_0.5 (1390 mg/kg) and EX4_47_1.0 (1400 mg/kg). URS considered that further excavation at these sample locations was not required based on statistical analysis.

Apart from the exceedances at EX04 mentioned above, concentrations of contaminants were within the adopted assessment criteria for analysed samples collected from all excavations; hand auger bores (HA200 to HA202); stockpiles SP03, SP05, SP07, SP08, SP09, SP10 and SP14; and imported VENM.

Water ingress occurred at EX04. A total of 26 000 L of water was pumped from EX04 and disposed offsite as (J120) oily waste water. Approximately 511 tonnes of stockpiled soil from the excavations was disposed off-site as general solid waste.

A surface hand pick of asbestos in two locations was undertaken and Presna, 2012a is the clearance certificate for the asbestos removal.

Loose fragments of asbestos sheeting were noted in the laboratory building in the south west of the site. A licenced contractor carried out works at the laboratory, with dust and debris associated with damaged sheeting removed from the laboratory. Presna, 2012b is the clearance certificate for the asbestos removal. The certificate noted that edges of damaged asbestos-containing fibre cement ceiling panels within the laboratory were encapsulated with yellow paint.

3.9 Environmental Summary Conclusion (URS, 2013c)

URS, 2013c summarises the findings of previous investigations undertaken at the site, with the view to providing a statement on the site soil and groundwater quality with respect to future industrial or commercial site use.

It is stated in URS, 2013c that URS did not encounter any soil conditions during remediation that would preclude the continued use of the site for commercial/industrial use.

URS considered that as the 95% Upper Confidence Limit (UCL) of the mean soil concentrations for the contaminants of potential concern were within the (Tier 1) assessment criteria, the risks to human health and the environment were considered to be low and acceptable.

URS considered that as groundwater was not impacted by contaminants of potential concern above the assessment criteria with the exception of metals, risks to human health and the environment were low and acceptable. Due to the widespread nature of the detections it was considered by URS that the detections of heavy metals in the groundwater beneath the site were indicative of local groundwater quality.

3.10 Review of Contamination Reports (DP, 2015)

DP, 2015 included a review of previous contamination reports and the findings of a site walkover in October 2015. It was noted that the primary guidelines for the assessment of contaminated sites had changed since the URS investigations were completed.

Given that TPH impacted soil is known to exist on site and it is not clear as to whether all TPH impacted soil was addressed by URS (such as that encountered at SB104, SB118, SB121 and SB122), it was recommended that targeted soil sampling be undertaken as a check that petroleum hydrocarbon concentrations are at levels which meet criteria sourced from current guidelines. In addition, limited soil sampling was recommended to be undertaken within and around the workshop and laboratory footprints (where possible) as they had not been investigated. At the same time, depending on the soil conditions encountered, it was recommended that selected soil samples should be analysed for other secondary potential contaminants which had not been tested such as OCP and asbestos to check that these are also within the current guideline criteria. In addition, limited soil sampling was recommended to be undertaken in areas seen to have ecological value for the future development (i.e. landscape areas).

It was recommended that, if the interceptor pit at the eastern part of the site was to be removed for the proposed development then it should be subject to validation testing similar to that undertaken by URS for the removal of other interceptor pits. If the interceptor pit was to remain for the proposed development, it was recommended that soil samples should be collected from the down-gradient side of the pit (if possible) to determine (or otherwise) that it is not a source of contamination.

Given that the site had previously contained numerous potentially contaminating sources, it was considered that there was a reasonable potential for contamination or buried infrastructure (such as USTs) to exist between sampled/investigated locations. It was recommended that an unexpected finds protocol be established for in-ground works for the proposed development.

3.11 Groundwater Assessment (DP, 2016)

The groundwater assessment (DP, 2016) included a review of site information to address Secretary's Environmental Assessment Requirements (SEARs) for the proposed development (SSD 7401). The groundwater assessment did not include a round of groundwater monitoring but recommended that groundwater monitoring be undertaken to provide a background dataset for the proposed development.

3.12 Response to Request for Information (DP, 2017a)

DP, 2017a is a letter that was prepared to provide further information to Department of Planning and Environment for the proposed development. It includes an unexpected finds protocol (UFP) for the possibility of encountering USTs (or similar infrastructure), buried asbestos or other signs of contamination during in ground works for the proposed development.

3.13 Sampling and Analysis Quality Plan (DP, 2017b)

The Sampling and Analysis Quality Plan (SAQP) was prepared for this targeted site investigation. Based on the findings from DP, 2015 and the Site Auditor's review of previous reports , 'data gaps' were identified at the following locations with regards to potential soil contamination:

- The footprint of the workshop and laboratory buildings;
- Behind the laboratory building where an asphalt stockpile was previously observed (see Section 3.1);
- Down gradient of the existing oil interceptor pit near the site boundary;
- The former substation (transformer) at the west of the site;
- The current substation (transformer) between the buildings at the east of site;
- Previous test bore locations SB104, SB118, SB121 and SB122 (see Section 3.6);
- Near former "tank 15" (see Section 3.1);
- The previous solvent wash area (see Section 3.1);
- Landscape areas (areas of ecological value);
- The former Truck Wash Bay and Cold Mix area at the north eastern part of the site;
- The metals storeroom where solvents and flammable liquids are noted to have been stored;
- Adjacent to the (possible) oil/water separator in the southern portion of the site near the recycled water tanks;
- The former "truck oil up stand" in central portion of the site;
- The former gross sediment trap (near the former substation); and
- Areas of previous ASTs (where sufficient soil sampling densities may not have been achieved).

The uncertainty surrounding the number of buried tanks at the Upper Hard Stand Area and the Manufacturing level (and if all buried tanks had been removed during remediation works) was noted from the Site Auditor's review of the information presented in URS reports.

The SAQP provides the proposed sampling and analytical scope and QA/QC testing requirements for this investigation.

3.14 Results of Initial Two Round of Groundwater Monitoring (DP, 2017c)

DP, 2017c is a letter which provides the analytical results of the initial two rounds of groundwater monitoring which have been undertaken to establish baseline physiochemical data for the proposed development. It is noted that three more groundwater monitoring events are scheduled and results of all groundwater monitoring events will be reported following the last round of monitoring (planned for mid-2018). The report will be prepared to address the Secretary's Environmental Assessment Requirements (SEARs) for a groundwater assessment for the proposed development.

The four groundwater monitoring bores (Bores 101 to 104) were installed in February 2016 (as shown in Drawing 1, Appendix A). For the first groundwater monitoring event (19 April 2016), no phase separate hydrocarbons were identified in each of the bores and groundwater levels were measured between depths of 2.18 m and 3.2 m. For the second groundwater monitoring event (4 July 2017), groundwater levels were measured between depths of 3.65 m and 5.38 m.

Samples from each well were analysed for a large suite of chemicals and water quality parameters for each round of monitoring (to establish baseline data). It was noted that concentrations of TRH, BTEX, PAH, OCP, OPP, PCB and total phenolics were below the laboratory's limit of reporting for all analysed samples.

4. Site Identification and Description

The site, identified by street address 24 Davis Road, Wetherill Park, and surveyed existing site features are shown in Drawing 1, Appendix A. According to the survey, the site (Lot 18 Deposited Plan 249417) covers a rectangular area of 20 280 m^2. The local government authority is Fairfield City Council. According to the Fairfield Local Environmental Plan 2013 maps, the site and neighbouring properties to the east, west and south are zoned as 'IN1 General Industrial'. The adjacent land to the north is zone as 'WSP SEPP (Western Sydney Parklands) 2009'.

As described in Section 3.1, the site has three main levelled areas, consistent with previous levelling and contouring, comprising the higher, middle and lower levels. An internal roadway on the western side of the site connects the levels. Slopes at the site are, otherwise, generally to the south.

The following infrastructure was present on the site at the time of field work for this investigation (4 and 5 July 2017):

- The (former) workshop, metal storeroom, laboratory and amenities buildings at the east of the site;
- A one storey brick office building at the front of the site;
- An active substation (transformer) between the amenities building and the laboratory;
- Concrete stockpile bays in the middle level of the site;
- In-ground recycled water tanks with an adjacent (possible) oil-water separator at the south of the site;
- A remnant shelter on the higher level towards the eastern site boundary; and
- An oil separator pit at the eastern site boundary.

Much of the site is covered by asphalt or concrete slabs although there are also unsealed areas at each level of the site. Some exposed soil was present at parts of the upper level and at the previous main manufacturing area (lower level), presumably associated with previous remediation works (see Section 3.8). Grass and trees are present at peripheries at the site and alongside the internal roadway. It is understood that the wooded area at the south of the site, alongside Davis Road, has some ecological significance (Cumberland Plain Woodland). Batter slopes and retaining walls are present between levels of the site.

Remnant concrete stands for up to seven former bitumen ASTs are present on a concrete slab at the higher level (Photograph 1, Appendix B). Concrete pads were also present at the lower part of the site.

The former workshop was used for the storage of pallets with packaging materials. A small room was present at the north-western corner of the workshop. The former mechanical work pit at the western part of the workshop had been sealed with a concrete slab at floor level. The floor slab was in good condition.

The former metal storeroom building had an empty room at the northern end which was probably previously used for flammable liquids storage. Other miscellaneous items such as a truck tyre and old generator were stored at the southern part of this building. The floor slab was in good condition.

The laboratory building had old dilapidated work benches at the southern part of the building and a storeroom at the northern end. A relatively small patch of damaged and stained walls and floor was observed at the south-eastern corner of the building and may be indicative of a previous chemical fire (Photograph 2, Appendix B). Concrete slabs were observed in good condition.

A small portion of the lower level had parked vehicles and was used for the temporary storage of items (such as finished metal products) prior to being loading onto trucks which infrequently entered the site.

One of the concrete stockpile bays at the middle level had some general waste materials (e.g. plastic materials) but none of the bays contained stockpiles of soil (or similar).

Presumed remnants of the asphalt stockpile at the rear of the amenities building was observed on the ground surface. Some soil disturbance was noticed around the substation and amenities building and is likely as a result of recent plumbing and/or electrical works (or similar).

A small cluster of five fibre-cement pieces was observed on the ground surface at the landscape area at the south of the site (immediately next to Bore 201) (Photograph 3, Appendix B). The pieces ranged from 4 cm to 13 cm in length and were observed to be in good (bonded) condition. The pieces were collected as a sample (labelled ‘A1’). The surrounding garden area was inspected for similar materials, however, none were observed. Other litter, such as pieces of tile and plastic, were observed on the ground surface in this area. Given the close proximity of the fibre-cement to Davis Road, the observed general litter and the absence of structures at this part of the site, it is considered that the fibre-cement was probably sourced from fly-tipping. Also, it is noted that the landscape area at the front of the site is not completely fenced-off to the public as the lockable gate is set back from the southern site boundary.

Surrounding land was used for primarily commercial/industrial purposes with scrap metal operations taking place on the neighbouring property to the west. The neighbouring land to the north was vacant apart from the (major) Sydney Water pipeline.

5. Proposed Development

Plans of the proposed site layout (Sheets A02, A03, A04 and C03, Project No. 1521) are provided in Appendix A.

The proposed resource recovery facility is proposed to process up to 200,000 tonnes/ year of materials which would provide an alternative to waste disposal through the recovery and beneficial use of resources. The recovered resources would be transferred either directly to end markets or to other facilities or processors. The facility is also proposed to act as a distribution centre for recycled materials and for the distribution and marketing of bulk landscape supplies including barks, sands and aggregates.

It is proposed to primarily accept the following waste streams at the facility:

- Hydro-excavation and drill muds/fluids for consolidation and removal from site for use as structural fill or as a feedstock within a soil conditioner and compost manufacturing;
- Bulk landscaping supplies for distribution into the surrounding areas; and
- Garden organics, commingled food and garden organics and food waste.

The recycling activities associated with the proposed development are briefly described as follows:

- **Separation and Consolidation of Hydro-Excavation, Drill Muds and Fluids**
  Hydro-excavation and drill muds/fluids will enter the site via a weighbridge whereby the consignment will be checked. Hydro-excavation and drill muds/fluids will be unloaded in purpose built receival and settling bays (mid-level) to allow for the separation of liquids and solids. Liquids will be drained by gravity to a designated 60,000 litre storage tank which will have the capacity to agitate the liquid to minimise the settling of any silt and clay within the storage tank. The solids will either be transferred to end use site as engineered fill in accordance with the respective EPA resource recovery order or be blended with other organics and recycled materials to produce a range of landscaping products.
- **Bulk Landscaping Supplies**
  Bulk loads of landscaping materials are proposed to be bought to the site from regional areas of NSW for storage and redistribution into the Sydney landscape market. Some materials may also be used in the preparation of purpose designed blended products again to be used in the landscaping industry or in soil rejuvenation projects. Types of landscaping materials to be received and stored onsite include soil, compost, sands, barks and aggregates. Existing purpose built bays (mid-level) will be used and others will be constructed whereby raw materials will be unloaded, stored, possibly blended and then loaded out for distribution to various end use applications.
- **Sorting and Consolidation of Garden Organics and Food Waste**
  Garden organics, commingled garden and food organics, and food waste are proposed to be received for sorting, decontamination shredding and consolidation prior to being transported off site to composting facilities for further processing and conversion to soil enhancement products.

Unloading will occur within an enclosed, purpose built building (upper level) with an approximate floor area of 2,200 m^2. The building will be designed with appropriate ventilation systems and odour control features to minimise odour release and provide a safe work environment.

Existing on-site infrastructure will be utilised where possible for the development, including site office, workshop, shedding, staff amenities, raw material bays, pavements and car parks, and stormwater management structures. Improvements and/or repairs will be undertaken to these infrastructure items where required.

New site infrastructure will be constructed to accommodate the proposed activities, including buildings for the sorting of food, garden, and organic wastes, hydro-excavation and drill mud settling bays, storage and settling tanks, a weigh bridge, and a gross pollutant trap. The proposed Organics building will comprise a one level warehouse covering approximately 75 m by 32 m at the north of the site and be of concrete panel construction. To the south of the Organics building, the proposed Food Depackaging and Process Building will comprise a one level warehouse covering approximately 50 m by 20 m and will include a tipping pit for receipt of food for recycling as shown on Drawing C03, Appendix A. The proposed dimensions of the pit are shown as approximately 12 m by 6 m, by 3 m deep, however, it is understood that the current plan is to minimise the excavation depth a maximum depth of 2.5 m below the existing ground level.

Apart from the excavation for the tipping pit for the proposed Food Depackaging and Process Building, it is understood that bulk excavations are not required for the proposed development and excavations will be limited to trenches for new services and footings.

It is understood that the landscape area at the south of the site is proposed to remain in its current state given that this part of the site has some ecological significance (Cumberland Plain Woodland). Other (relatively small) landscape areas are also part of the proposed development.

6. Topography, Geology and Hydrogeology Summary

The following information has been (primarily) summarised from DP, 2016 and URS, 2013c.

The site elevation is between 36 m AHD (at the south) and 48 m AHD (at the north). The ground surface at the neighbouring scrap metal yard (to the west) is approximately 4 to 5 m lower than the site.

Reference to the Penrith 1:100,000 Geological Series Sheet indicates that the site and surrounding area is generally underlain by Bringelly Shale. Bringelly Shale comprises Middle Triassic Shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. Sandstone constitutes about 20-30% of the Bringelly Shale though mainly in the top half of the formation.

Reference to the Penrith 1:100,000 Soils Landscape Sheet indicates that the site is located within the Blacktown residual soil landscape area. The soil landscape is described as gently undulating rises on Wianamatta Group shales and Hawkesbury Sandstone. Local relief is to 30 m and slopes are usually <5%. Broad rounded crests and ridges with gently inclined slopes are typical.

Rainfall at the site would either penetrate permeable surfaces or enter the local stormwater system which likely feeds into Prospect Creek.

For DP, 2016, a search was undertaken of registered groundwater bores in the NSW Department of Primary Industry (DPI) database. Twenty three bores were registered within 1 km of the site, four of which were within 500 m of the site. Twenty two of the bores were shallow (<10m depth) monitoring wells, with only limited data recorded. The remaining bore (GW109317) was drilled to 165 m located approximately 1 km north east (cross-gradient) of the site. The bore was drilled through four water bearing zones between 53 m and 164 m depth, and all were recorded as having a thickness of 0.1 m to 1 m and associated with fractured shale or sandstone bedrock. Yields were recorded between 0.45 L/s and 2.1 L/s and salinity was recorded between 6,000 mg/L and 10,000 mg/L. The lack of active producing bores in the vicinity of the site is indicative of groundwater not being an economic resource in the area due to the high salinity of water from the Bringelly and Ashfield Shales.

The lithology encountered during drilling of soil bores and monitoring wells by URS is summarised in Table 1. Groundwater was generally encountered within the shale bedrock across the site, although perched water was encountered in filling / top of natural ground at several bores. Standing water levels gauged across the site varied between 0.15 and 3.07 m below the top of casing. Based on measured groundwater levels, the direction of groundwater flow was inferred towards the south in the general direction of an unnamed stormwater channel (located approximately 450 m to the south) which flows into Prospect Creek.

Table 1: Site Lithology (URS, 2013c)

Depths (m bgl)	Lithology
0 – 0.2	Grass, concrete paving or asphalt
0.2 - 2.4	Filling at localised areas including sand and gravel.
0.5 – 3	Sandy clay with shale fragments and gravel
3 – 10.2	Shale and siltstone bedrock

7. Site History Summary

The site use history is summarised from URS, 2013c below.

The site was privately owned and was likely used for pastoral land before 1966, after which time the site was utilised for industrial purposes. In 1978, Allen Bros Ltd took over the site and by 1986 the asphalt plant had been constructed. In 1995 the site was transferred to Emoleum Australia Ltd who were the subsidiary of Mobil. A series of bitumen, diesel, asphaltrent, waste water, petrol, emulsion and possible kerosene and emulsion storage tanks (both above ground and below ground) were used at certain stages of the asphalt plant's operation (and there was uncertainty as to the total number of tanks). The site was decommissioned prior to 2006. All known fuel storage tanks and related infrastructure were removed by 2012 (see Section 3.9).

8. Conceptual Site Model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how potential receptors may be exposed to contamination i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

URS prepared preliminary and revised CSM's in their reports (including URS; 2006; URS, 2012a; URS, 2012b; URS, 2012d; and URS, 2013c) which included sources of contamination with respect to the asphalt plant infrastructure and its decommissioning. Given that the current investigation has been designed to target data gaps (following the decommissioning of asphalt plant infrastructure and remediation works discussed in Section 3.9) the current potential source(s) of contamination can be summarised as follows:

- S1: Residual contamination from previous site activities including the use of filling to form the site and the asphalt plant operations (including fuel and chemical storage and use, stockpiling, possible pesticide usage, substations, oil/water separators, sediment trap and wash areas). Fly tipping may have also occurred at the site during previous site activities.

Based on the information presented in URS, 2006, the primary potential soil contaminants of concern associated with the asphalt manufacturing process include PAH, TPH and BTEX. Secondary chemical contaminants of concern include OCP (for possible pesticide control), VCH/VOC from chemical storage and usage, metals and phenols (primarily from filling but also possibly from fuel and waste oil). Imported filling from an unknown/contaminated source may contain asbestos and, therefore, asbestos is considered to be a secondary potential contaminant (noting that asbestos contaminated filling was not identified by URS in their reports). The potential contaminants of concern for each particular sample location are discussed in Section 9.4.

Potential receptors of contamination for the proposed development are identified to include:

- R1: Future site users (workers and visitors);
- R2: Adjacent site users (primary workers at neighbouring properties but also pedestrians);
- R3: Construction workers (for the proposed development);
- R4: Maintenance workers (during operation of the proposed development);
- R5: Groundwater (although it is noted that URS investigations indicate an absence of groundwater contamination);
- R6: Surface water body (the unnamed stormwater channel flowing into Prospect Creek);
- R7: Terrestrial ecology; and
- R8: Property (in ground structures).

Potential pathways for contamination to impact on receptors are identified to include:

- P1: Ingestion and/or dermal contact;
- P2: Inhalation of dust;
- P3: Inhalation of vapours;

- P4: Leaching of contaminants and vertical mitigation into groundwater;
- P5: Lateral migration of groundwater providing base flow to watercourses;
- P6: Stormwater runoff;
- P7: Direct contact with ecological receptors; and
- P8: Direct contact with in ground structures.

The preliminary CSM for this investigation, based on the above-listed sources, pathways and receptors is provided in Table 2.

Table 2: Preliminary Conceptual Site Model

Source	Transport Pathway	Receptor
S1 – Residual soil contamination from previous site activities	P1 – Ingestion and dermal contact P2 - Inhalation of dust P3 – Inhalation of vapours	R1 – Future site users R3 – Construction workers R4 – Maintenance workers
	P2 - Inhalation of dust P3 – Inhalation of vapours	R2 - Adjacent Site Users
	P4 - Leaching of contaminants & vertical migration	R5 - Groundwater
	P5 – Lateral migration of groundwater P6 – Stormwater runoff	R6 – Surface water body
	P7 – Direct contact of contaminated ground	R7 – Ecology
	P8 - Direct contact with in ground structures	R8 – Property (in ground structures)

9. Fieldwork, Analysis and QA/QC

9.1 GPR Survey

In order to provide greater certainty that USTs had been removed, a GPR was used (by a qualified buried services locator) at the higher level and the lower level of the site in the areas shown in Drawing 1, Appendix A ,which were apparently where previous tanks were positioned. The GPR survey was undertaken on a general grid pattern (approximately 2 m by 2 m). When an anomaly was observed in a scan, the location of the anomaly was rescanned (to determine the absence/presence of a possible UST) or checked for the alignment of buried services (e.g. stormwater pipes) which could have caused the anomaly.

9.2 Sample Location Rationale

It is noted that the total number of sampling locations adopted for investigations by URS (including more than 60 test bores) was well in excess of the recommended minimum number of sample locations for characterisation of a 2.0 ha site (30 sample points) according to NSW EPA, *Sampling Design Guidelines,* 1995. Therefore, the 45 soil sampling locations (Bores 200 to 245) adopted for this investigation were positioned to address identified 'data gaps' (see Section 3.13) rather than to provide general site coverage. Table 3 provides the rationale for the position of each soil sampling location as well as the primary depth of interest for each sample location. The final position of each sample location was dependent on the location of identifiable buried services.

Table 3: Soil Sample Location Rationale

Bore	Sample Location Rationale	Primary Depth of Interest
201 - 202	Current and future landscape area (of ecological value).	Upper 2 m for ecological assessment and surficial soil for possible pesticides.
203	Down-gradient of possible oil water separator next to water tanks. Current and future landscape area (of ecological value).	Base of oil water separator pit (depth unknown, possibly 2 m). Upper 2 m for ecological assessment and surficial soil for possible pesticides
204	Previous small asphalt stockpile (see Section 3.1)	Surface and near surface soil.
205	Down-gradient of oil interceptor pit.	Base of pit (depth unknown, possibly 2 m).
206 - 207	Former workshop	Near surface soil (beneath concrete slab)
208	Former metal storeroom	Near surface soil (beneath concrete slab)
209	Former metal storeroom, inside probable previous flammable liquids store.	Near surface soil (beneath concrete slab)
210	Former storeroom of laboratory building.	Near surface soil (beneath concrete slab)
211	Former laboratory.	Near surface soil (beneath concrete slab)
212	Down-gradient of and as close as possible to current substation (transformer).	Near surface soil
213	Near previous sample location SB118 where elevated TRH C_{10}-C_{36} in soil was identified (see Section 3.6).	Upper 0.5 m (based on data from URS).
214 - 215	Near previous "tank 15" / former AST	Upper 1 m (based on data from URS).
216 - 221	Previous ASTs.	Near surface soils (upper 0.5 m)
222	Near previous sample location SB121 where elevated TRH C_{10}-C_{36} in soil was identified (see Section 3.6).	Upper 1.5 m (based on data from URS)

Bore	Sample Location Rationale	Primary Depth of Interest
223	Near previous sample location SB122 where elevated TRH C_{10}-C_{36} in soil was identified (see Section 3.6).	Upper 0.6 m (based on data from URS)
224	Previous substation (transformer).	Upper 1 m.
225	Previous gross sediment trap. Current and future landscape area (of ecological value).	Upper 2 m for ecological assessment and surficial soil for possible pesticides or depth of possible base of gross sediment trap (i.e base of filling).
226	Current and future landscape area (of ecological value).	Upper 2 m for ecological assessment and surficial soil for possible pesticides.
227	Future landscape area.	Upper 2 m for ecological assessment.
228	Previous truck oil stand up.	Upper 0.5 m.
229	Previous solvent wash area.	Upper 1 m (based on data from Dames & Moore)
230 - 241	Previous bitumen ASTs.	Upper 0.5 m (beneath concrete slab)
242 - 243	Former truck wash bay and Cold Mix stockpiling area	Near surface soils (beneath concrete slab)
244	Near previous sample location SB104 where elevated TRH C_{10}-C_{36} in soil was identified (see Section 3.6).	Upper 0.5 m based on data from URS.
245	At stained/fire-damaged part of former laboratory.	Near surface soils (beneath concrete slab)

Table 3 includes all the sample locations proposed in the SAQP. It is noted that areas of previous ASTs included sufficient sample locations to achieve a density of approximately 1 sample location per 25 m^2 as recommended in NSW EPA, *Technical Note: Investigation of Service Station Sites,* 2014.

9.3 Soil Sampling Procedure

For Bores 203, 205 to 207, 210, and 213 to 244 soil samples were collected using a Geoprobe 7782DT drilling rig with Push Tube attachment and disposable PVC liners. At some of these locations, an additional sample of surface soil (or soil immediately beneath a concrete slab) was collected using disposal gloves. For Bores 201 and 202, samples were collected using a hand auger instead of the drilling rig to avoid possible damage to the area understood to be Cumberland Plain Woodland at the south of the site. Test Bores 204, 208, 209, 211, 212 and 245 were drilled using a hand auger given that these sample locations were inaccessible to the drilling rig. The general sampling procedure adopted for the collection of soil samples for chemical analysis was:

- Collect soil samples from the (cut open) PVC liner or hand auger returns;

- Transfer samples into laboratory-prepared glass jars, completely filled (when sufficient sample was recovered) to minimise the headspace within the sample jar, and capping immediately to minimise loss of volatiles;
- Label sample containers with individual and unique identification, including project number, sample location and sample depth; and
- Place the glass jars, with Teflon lined lids, into a cooled, insulated and sealed container for transport to the laboratory.

Replicate samples were collected in zip-lock bags for volatile screening using a PID. The calibration certificate for the PID is provided in Appendix C. For the purpose of asbestos analysis, replicate samples of filling were collected in zip-lock bags (where sufficient sample was able to be collected).

At least one sample from each test location was analysed for a minimum of TRH, BTEX and PAH (the primary contaminants of concern) and metals to provide data for each sample location. Generally, filling samples were selected for analysis over natural samples from each location given that contamination was considered more likely to be associated with the filling than underlying natural soils at most locations. Rationale for selecting primary soil samples for particular analysis is summarised as follows:

- Near surface samples from current and future landscape areas at Bores 201, 202, 203, 225, 226 and 227 were analysed for TRH, PAH, BTEX, metals and OCP for ecological assessment purposes and to test for contamination resulting from possible previous pesticide usage (and the previous gross pollutant trap at Bore 225);
- A natural soil sample from Bore 203, depth 2-2.2 m was analysed for TRH, BTEX, metals and PAH to test for potential contamination from the possible oil water separator;
- A near surface sample from Bore 204 was analysed for TRH, BTEX, PAH to test for potential contamination from the previous small asphalt stockpile;
- A natural soil sample from Bore 205, depth 2.2-2.4 m was analysed for TRH, BTEX, metals and PAH to test for potential contamination from the possible oil water separator;
- Samples from Bores 206 and 207 were analysed for TRH, BTEX, PAH, VOC and metals to test for potential contaminants associated with the former workshop;
- Samples from Bores 208 and 209 were analysed for TRH, BTEX, PAH, VOC and metals to test for potential contaminants associated with the former metal storeroom (and flammable liquids store);
- Samples from Bores 210, 211 and 245 were analysed for TRH, BTEX, PAH and VOC to test for potential contaminants associated with the former laboratory. In addition a sample from Bore 245 was tested for total phenols given the observed patch of damaged and stained walls and floor at this location;
- Samples from Bore 212 were analysed for PCB to test for potential contamination from the substation;
- Samples from the upper 0.5 m of soil from Bore 213 were analysed for TRH given that elevated TRH C_{10}-C_{36} was identified at previous sample location SB118;
- Samples from the upper 1 m of soil from Bores 214 and 215 were analysed for TRH, BTEX, PAH, and metals to test for potential contaminants associated with former ASTs and “tank 15” as well

as the observed ash and bitumen in the filling at Bore 215. The sample from Bore 215, depth 0.5 - 0.8 m was also analysed for total phenols given the observed bitumen;

- Samples from the upper 0.6 m of soil from Bores 216 to 221 were analysed for TRH, BTEX, PAH, and metals to test for potential contaminants associated with previous ASTs as well as the observed black bituminous substance, metal and charcoal in filling at Bore 217 and the possible ash and asphalt observed in filling at Bore 218. The sample from Bore 217, depth 0-0.25 m was also analysed for total phenols given the observed bituminous substance;
- Samples from the upper 1.5 m of soil from Bore 222 were analysed for TRH given that elevated TRH C_{10}-C_{36} was identified at previous sample location SB121. The sample from depth 0.3-0.5 m was also analysed for metals and PAH given the observed presence of ash and slag in the filling. The sample from depth 1.3-1.4 was also analysed for metals, PAH and total phenols given the observed presence of black bituminous material in the filling;
- Samples from the upper 0.6 m of soil from Bore 223 were analysed for TRH given that elevated TRH C_{10}-C_{36} was identified at previous sample location SB122;
- Samples from Bore 224 were analysed for PCB to test for potential contamination from the former substation;
- A sample from the upper 0.5 m at Bore 228 was analysed for TRH, PAH and metals to test for contaminants associated with the previous truck oil stand up as well as the observed black bituminous material in the filling;
- A sample from the upper 1.0 m at Bore 229 was analysed for TRH, PAH, metals and VOC to test for contaminants associated with the previous solvent wash area;
- Samples from the upper 0.5 m of soil at Bores 230 to 241 were analysed for TRH, BTEX, PAH and metals to test for contaminants associated with the previous bitumen ASTs as well as the observed ash in filling at Bores 232, 233, 234 and 240, and the slight odour and possible staining in the filling at Bore 232. The sample from Bore 232 (depth 0.15-0.3 m) was also analysed for total phenols given the observed slight odour and possible staining;
- Samples from the upper 0.5 m of soil at Bores 242 and 243 were analysed for TRH, BTEX, PAH, and metals to test for potential contamination from the former Truck Wash Bay and Cold Mix stockpiling area;
- Samples from the filling at Bore 244 were analysed for TRH given that elevated TRH C_{10}-C_{36} was identified at previous sample location SB104;
- Although there is no historical information presented in previous reports (listed in Section 3) to suggest that coal tar was used at the site, samples from Bore 215 (depth 0.5-0.8 m), Bore 217 (depth 0-0.25 m) and Bore 222, depth (1.3-1.5 m) were tested for the presence or absence of coal tar given that bitumen or a bituminous substance were observed at these bores (and depths);
- Although potential ACM was not observed in any soil samples, filling samples from Bores 231, 235, 237 and 244 were analysed for asbestos due to the observed presence of concrete fragments as building rubble can be an indicator of possible asbestos contamination. Other filling samples, from Bores 204, 214, 215, 222, 233 and 234, were analysed for asbestos given that the filling at these locations was somewhat non-homogenous;

- The soil sample from the surface of Bore 201 was analysed for asbestos as it was immediately next to the observed fibre-cement on the ground surface (that was analysed for asbestos as sample A1).

Additional samples (to those referred to above) were analysed for OCP, PCB and asbestos to provide some data for across the site, particularly in relation to filling. Asbestos analysis was undertaken on (approximate) 500 mL samples where sufficient sample was able to be retrieved. Otherwise, analysis was undertaken on (approximate) 40 g samples (where only minimal sample was able to be retrieved).

Note that testing for OPP has not been undertaken given that these chemicals are not persistent in soil (i.e. OPP are likely to decompose within a year) and there is no evidence to suggest OPP has been used in at the site within the previous year (NSW Department of Environment and Conservation, *Guidelines for Assessing Former Orchards and Market Gardens*, 2005).

9.4 Quality Assurance and Quality Control

The field QC procedures for sampling were undertaken as prescribed in Douglas Partners' *Field Procedures Manual* and the SAQP. The results of field QA/QC procedures (including replicate sampling, the use of trip spikes and blanks, and sampling equipment decontamination) as well as a discussion of Data Quality Objectives (DQO) and Data Quality Indicators (DQI) for the assessment are provided in Appendix D.

The analytical laboratories, accredited by NATA, are required to conduct in-house QA/QC procedures. These are normally incorporated into every analytical run and include reagent blanks, spike recovery, surrogate recovery and duplicate samples. These results are included in the laboratory certificates in Appendix E and discussed in Appendix D.

Based on the evaluation of QA/QC information (as discussed in Appendix D), it is considered that the laboratory data sets are reliable and useable for this assessment.

10. Site Assessment Criteria

The Site Assessment Criteria (SAC) applied in the current investigation is informed by the preliminary CSM (see Section 8) which identified receptors to potential contamination on the site. Analytical results were assessed (as a Tier 1 assessment) against the SAC comprising the investigation and screening levels of Schedule B1, *National Environment Protection (Assessment of Site Contamination) Measure* 1999, as amended 2013 (NEPC, 2013). The NEPC guidelines are endorsed by the NSW EPA under the *Contamination Land Management Act 1997*.

The investigation, screening levels and management limits are applicable to generic land use settings and include consideration of, where relevant, the soil type and the depth of contamination. The investigation and screening levels are not intended to be used as clean up levels. Rather, they establish concentrations above which further appropriate investigation (e.g. Tier 2 assessment) should be undertaken. They are intentionally conservative and are based on a reasonable worst-case scenario.

Given that the site is proposed to be developed into a Resource Recovery and Recycling Centre, the investigation, screening levels and management limits applied in the current investigation comprise levels applicable to a generic commercial or industrial land use. It is noted that the landscape area at the southern part of the site has some ecological significance (Cumberland Plain Woodland) which will be protected as part of the proposed development. Given that this landscape area is part of land zoned for General Industrial purposes (i.e. not zoned as E2 Environmental Conservation or E3 Environmental Management where environmental conservation or management is the primary intention for the land use) and the surrounding land is also zoned and used for General Industrial purposes, a higher level of protection than for a generic commercial or industrial land use has not been applied.

10.1 Health Investigation Levels

The Health Investigation Levels (HILs) are scientifically based, generic assessment criteria designed to be used in the first stage (Tier 1) of an assessment of potential risks to human health from chronic exposure to contaminants. As a conservative approach, the HILs apply to the top 3 m of soil.

The adopted HILs (for a generic commercial or industrial land use) are from Table 1A(1), Schedule B1 of NEPC (2013) and are listed in Table 4.

Table 4: Health Investigation Levels (HIL)

Contaminant	HIL D - Commercial / Industrial (mg/kg)
Metals and Inorganics	
Arsenic	3000
Cadmium	900
Chromium (VI)	3600
Copper	240 000
Lead	1500
Mercury (inorganic)	730
Nickel	6000
Zinc	400 000
PAHs	
Carcinogenic PAHs (as Benzo(a)pyrene TEQ)	40
Total PAHs	4000
OCP	
DDT+DDE+DDD	3600
Aldrin + Dieldrin	45
Chlordane	530
Endosulfan (total)	2000
Endrin	100
Heptachlor	50
HCB	80
Methoxychlor	2500
Phenols	
Phenol	240 000
Pentachlorophenol	660
Cresols	25 000
Other Organics	
PCBs (non dioxin- like PCB only)	7

10.2 Health Screening Levels – Petroleum Hydrocarbons

The Health Screening Levels (HSL) for vapour intrusion are applicable to selected petroleum compounds and fractions to assess the risk to human health via the inhalation pathway. HSL for vapour intrusion have been developed for different land uses, soil types and depths to contamination.

The adopted HSL for vapour intrusion, shown in Table 5, are the most conservative values sourced from Table 1A(3), Schedule B1 of NEPC (2013) given that various soil types are present at the site.

Table 5: Health Screening Levels (HSL) for Vapour Intrusion

Contaminant	HSL D for vapour intrusion (mg/kg)
TRH	
$C_6 – C_{10}$ (less BTEX)	260
$>C_{10}-C_{16}$ (less Naphthalene)	NL
BTEX	
Benzene	3
Toluene	NL
Ethylbenzene	NL
Xylenes	230
PAHs	
Naphthalene	NL

Notes: NL: Not Limiting (in the case that the derived soil HSL exceeds the soil saturation concentration)

It is noted that Health Screening Levels for the direct contact pathway have not been listed given that these are unlikely to become drivers for further investigation or management as the direct contact values are significantly higher than other assessment criteria (e.g. Management Limits) used in this investigation.

10.3 Ecological Investigation Levels

Ecological Investigation Levels (EIL) have been derived for selected metals and organic compounds and are applicable for assessing risks to terrestrial ecosystems (NEPC, 2013). EIL depend on specific soil physiochemical properties and land use scenarios and generally apply to the top 2 m of soil (for the proposed development), which corresponds to the root zone and habitation zone of many species. The EIL is determined for a contaminant based on the sum of the ambient background concentration (ABC) and an added contaminant limit (ACL). The ABC of a contaminant is the soil concentration in a specific locality that is the sum of naturally occurring background levels and the contaminants levels that have been introduced from diffuse or non-point sources (e.g. motor vehicle emissions). The ACL is the added concentration (above the ABC) of a contaminant above which further appropriate investigation and evaluation of the impact on ecological values is required.

The EIL is calculated using the following formula:

EIL = ABC + ACL

The ABC is determined through direct measurement at an appropriate reference site (preferred) or through the use of methods defined by Olszowy et al *Trace element concentrations in soils from rural and urban areas of Australia*, Contaminated Sites monograph no. 4, South Australian Health Commission, Adelaide, Australia 1995 (Olszowy et al., 1995) or Hamon et al, *Geochemical indices allow estimation of heavy metal background concentrations in soils*, Global Biogeochemical Cycles, vol. 18, GB1014, (Hamon, 2004). ACL is based on the soil characteristics of pH, CEC and clay content.

EIL (and ACLs where appropriate) have been derived in NEPC (2013) for only a short list of contaminants comprising arsenic, copper, chromium (III), DDT, naphthalene, nickel, lead and zinc. EIL have been determined using the *Ecological Investigation Level Calculation Spreadsheet*, developed by the CSIRIO for NEPC. The following site specific data and assumptions have been used to determine the EILs:

- A protection level of 60% for commercial and industrial areas has been adopted;
- Site contamination is aged (i.e. >2 years old);
- The site is in NSW and is located in an area of high traffic volume;
- The EILs will apply to the top 2 m of the soil profile (at proposed landscape areas);
- A pH of 5.9 has been used as an input parameter as this is the average pH of the three analysed soil samples (Bore 201, depth 0-0.1m: pH 6.4; Bore 203, depth 0-0.2 m: pH 5.6; and Bore 226, depth 0-0.2 m: pH 5.7);
- A CEC of 11 cmolc/kg has be used as an input parameter as this is the (rounded) average CEC of the three analysed soil samples (Bore 201, depth 0-0.1m: CEC of 8.9 cmolc/kg; Bore 203, depth 0-0.2 m: CEC of 9.6 cmolc/kg; and Bore 226, depth 0-0.2 m: CEC of 14 cmolc/kg);
- A clay content of 5% has been assumed as a conservative value (given that clay-type soils are prominent at the site); and
- An organic carbon content of 1% has been assumed as a conservative value.

The adopted EIL are shown in Table 6.

Table 6: Ecological Investigation Levels (EIL)

Analyte		EIL (mg/kg)
Metals	Arsenic	160
	Copper	290
	Nickel	310
	Chromium III	540
	Lead	1800
	Zinc	700
PAH	Naphthalene	370
OCP	DDT	640

10.4 Ecological Screening Levels

Ecological Screening Levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene to terrestrial ecosystems. ESL apply to the top 2 m of soil profile (for the proposed development) as for EIL.

The adopted ESL, shown in Table 7, are the most conservative values from Table 1B(6), Schedule B1 of NEPC (2013) for a generic commercial or industrial land use (given that various soil types are present at the site).

Table 7: Ecological Screening Levels (ESL)

Analyte		ESL (mg/kg)	Comments
TPH	$C_6 – C_{10}$ (less BTEX)	215*	All ESLs are low reliability apart from those marked with * which are moderate reliability
	$>C_{10}-C_{16}$	170*	
	$>C_{16}-C_{34}$	1700	
	$>C_{34}-C_{40}$	3300	
BTEX	Benzene	75	
	Toluene	135	
	Ethylbenzene	165	
	Xylenes	95	
PAH	Benzo(a)pyrene	1.4	

10.5 Management Limits

In addition to appropriate consideration and application of the HSLs and ESLs, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services.

Management Limits to avoid or minimise these potential effects have been adopted in NEPC (2013) as interim Tier 1 guidance. Management Limits have been derived in NEPC (2013) for the same four petroleum fractions as the HSLs. The adopted Management Limits, shown on Table 8, are the most conservative values for a generic commercial or industrial land use from Table 1B(7), Schedule B1 of NEPC (2013). The Management Limits apply to any depth within the soil profile.

Table 8: Management Limits

Analyte		Management Limit (mg/kg)
TPH	$C_6 – C_{10}$	700
	$>C_{10}-C_{16}$	1000
	$>C_{16}-C_{34}$	3500
	$>C_{34}-C_{40}$	10 000

10.6 Asbestos in Soil

Bonded asbestos containing material (ACM) is the most common form of asbestos contamination across Australia, generally arising from:

- Inadequate removal and disposal practices during demolition of buildings containing asbestos products;
- Widespread dumping of asbestos products and asbestos containing fill on vacant land and development sites; and
- Commonly occurring in historical fill containing unsorted demolition materials.

Mining, manufacturing or distribution of asbestos products may result in sites being contaminated by friable asbestos including free fibres. Severe weathering or damage to bonded ACM may also result in the formation of friable asbestos comprising fibrous asbestos (FA) and/or asbestos fines (AF).

Asbestos only poses a risk to human health when asbestos fibres are made airborne and inhaled. If asbestos is bound in a matrix such as cement or resin, it is not readily made airborne except through substantial physical damage. Bonded ACM in sound condition represents a low human health risk, whilst both FA and AF materials have the potential to generate, or be associated with, free asbestos fibres. Consequently, FA and AF must be carefully managed to prevent the release of asbestos fibres into the air.

According to Table 7 of Schedule B1 of NEPC (2013), the health screening levels for asbestos for a commercial or industrial site are:

- Bonded ACM: 0.05%;
- FA and AF: 0.001%; and
- All forms of asbestos: no visible asbestos for surface soil.

This targeted investigation was not designed to be a detailed assessment for asbestos contamination given that the information presented in reports by URS did not indicate the presence of asbestos in soil. Rather, sampling and analysis for asbestos was undertaken to “check” for the absence (or otherwise) of asbestos at the sampled locations. Where sufficient soil sample (500 mL) was recovered and subject to analysis for FA and AF in accordance with procedures in Schedule B2 of NEPC (2013), the above listed HSL for FA and AF is adopted. Where only a small volume of soil could be recovered for asbestos analysis (i.e. approximately 40 g in accordance with AS4964-2004), the presence of identifiable asbestos is used as the screening criterion. [It is noted that Envirolab Services Pty Ltd, the primary laboratory for analysis, will comment on identifiable asbestos at concentrations below the AS4964-2004 reporting limit of 0.1 g/kg].

Sampling for bonded ACM from 10 L soil samples in accordance with Schedule B2 of NEPC (2013) was not undertaken, and therefore, the bonded ACM health screening level is not applicable for this investigation.

10.7 Contaminants without Screening Criteria (from NEPC, 2013)

For tested chemicals (e.g. VOC) which do not have screening criteria presented in NEPC, 2013, the laboratory's limits of reporting will be used as the initial screening criteria. Further assessment will be required where these chemicals are detected above the limit of reporting.

For coal tar analysis, the presence of coal tar is adopted as the screening criterion.

11. Field and Analytical Results

11.1 GPR results

As stated in the Locating Report in Appendix F, the GPR scan did not indicate the presence of possible buried tanks at the scanned areas (despite some anomalies in the scans which could have been caused by buried services, the varying filling/soil/rock profile or old buried footings). The scan images are also presented in Appendix F.

11.2 Soil Observations and Field Results

Borehole logs (as well as Notes About this Report) are provided in Appendix G and should be referred to for detailed soil and rock descriptions.

At Bores 201 and 202, drilled at the front landscape area, a thin layer (up to 0.1 m thick) of brown clayey silt (possible filling) was underlain by brown silty clay. Test bores were discontinued at depths of 0.23 and 0.17, respectively, due to hand auger refusal in silty clay.

At Bore 203, drilled at a grassed area, brown silty sand filling to a depth of 0.2 m was underlain by brown mottled red and orange silty clay and grey and red clay to a depth of 1.4 m. Clay was underlain by grey and brown shale to a depth of 2.2 m at which depth push tube refusal was encountered.

At Bore 204, brown silty gravel filling was encountered to a depth of 0.2 m. Trace asphalt pieces were observed in the top 0.05 m of filling. The bore was discontinued at a depth of 0.2 m to avoid encroaching on a buried (live) electricity cable.

At Bore 205, brown silty clay filling (possibly natural soil) with a trace of charcoal was encountered to a depth of 0.12 m. Filling was underlain by brown, grey and white silty clay and light grey clay to a depth of 2.4 m at which depth push tube refusal was encountered.

At Bores 206 and 207, drilled within the former workshop, a concrete slab (approximately 0.14 m thick) was underlain by a thin layer of filling (up to 0.05 m thick) comprising brown sand at Bore 206 and grey-brown sandy gravel and clay at Bore 207. Filling was underlain by grey and brown shale to a depth of 1.1 m at Bore 206. Filling was underlain by grey and orange-brown silty clay to a depth of 0.3 m then grey and brown shale to a depth of 1.2 m at Bore 207. Push tube refusal was encountered in shale at depths of 1.1 m and 1.2 m, respectively.

At Bore 208, drilled within the former metal storeroom, 0.18 m thick concrete was encountered and was underlain by brown gravelly sand filling and brown and grey silty clay filling to a depth of 0.31 m at which depth hand auger refusal was encountered. At Bore 209, drilled within the presumed former flammable liquids store of the former metal storeroom, brown clayey sand filling then grey sand filling was encountered to a depth of 0.6 m. Bore 209 was discontinued due to encountering a possible stormwater pipe at a depth of 0.6 m.

At Bore 210, drilled at the former laboratory building, concrete (0.16 m thick) was underlain by grey sandy gravel filling to a depth of 0.24 m, then grey and brown shale to a depth of 1.1 m at which depth push tube refusal was encountered. At Bore 211, drilled within the former laboratory, grey sandy clay filling to a depth of 0.16 m was underlain by light brown silty clay (possibly reworked) to a depth of 0.3 m at which depth hand auger refusal was encountered. At Bore 245, also within the former laboratory, concrete (0.29 m thick) was underlain by grey sandy gravel filling to a depth of 0.5 m at which depth the bore was discontinued due to the collapse of filling. It was noted that the concrete extended to a greater depth at the southern side of the hole and may be a possible footing for the laboratory building.

At Bore 213, concrete (0.2 m thick) was underlain by brown gravelly sandy clay filling to a depth of 0.25 m, then grey and brown silty clay to a depth of 0.45 m, and grey and brown shale to a depth of 1.4 m at which depth push tube refusal was encountered.

At Bore 214, grey gravelly sand filling with a trace of asphalt fragments to a depth of 0.2 m was underlain by grey and brown clay (possible filling) to a depth of 0.3 m then grey and brown shale to a depth of 1.2 m at which depth push tube refusal was encountered. At the nearby sample location, Bore 215, filling was encountered to a greater depth of 0.9 m and included brown and grey gravelly clay filling (to a depth of 0.2 m), then grey, brown and orange gravelly silty clay filling (to a depth of 0.4 m), then black, brown, grey and orange gravelly sandy clay filling with some ash and bitumen (to a depth of 0.9 m). Filling at Bore 215 was underlain by grey silty clay to a depth of 1.0 m, then grey shale to a depth of 1.2 m at which depth push tube refusal was encountered.

At Bores 216 to 221, filling was observed up to a depth of up to 1.1 m. Filling materials comprised grey, brown and orange sandy silty gravelly clay filling; grey, light brown, red and orange silty clay filling; grey sandy clayey gravel filling; grey sandy clayey gravel filling; dark grey gravelly sand filling; grey sand gravel filling; brown, grey and orange sandy gravelly clay filling; grey, brown, green and grey sandy clay filling; black clayey gravelly silty sand filling; and grey, red and light brown gravelly clay filling. At Bore 217, a black bituminous substance and a trace of metal was observed in the filling at a depth of 0 - 0.25 m, and a trace of charcoal was observed in the filling at a depth of 0.25 – 0.7 m. At Bore 218, a trace of possible ash and asphalt was observed in the filling at a depth of 0 – 0.1 m. At Bores 216 and 218, filling was underlain by brown, orange-brown and grey shale to depths of 1.7 m and 1.8 m, respectively. At Bores 217, 219, 220 and 221, filling was underlain by a layer of grey, orange, red and brown clay (of 0.3 m typical thickness). Clay was underlain by grey, orange-brown and brown shale. Bores 217, 219, 220 and 221 were discontinued in shale due to push tube refusal at depths of between 1.7 m and 2.2 m.

At Bore 222, filling was observed to a depth of 1.4 m and comprised brown gravelly sandy silt filling (to a depth of 0.1 m); brown and grey sandy clay filling with a trace of ash and slag (to a depth of 0.7 m); grey, brown and orange gravelly clay filling (to a depth of 1.3 m); and black bituminous sandy gravel filling (to a depth of 1.4 m). Filling was underlain by grey and light brown clay to a depth of 1.6 m, then grey and brown shale to a depth of 2.6 m at which depth push tube refusal was encountered.

At Bore 223, concrete (0.1 m thick), brown and grey silty clay filling to a depth of 0.3 m was underlain by grey silty clay to a depth of 0.6 m, then brown and grey shale to a depth of 1.6 m at which depth push tube refusal was encountered. At the nearby sample location, Bore 224, brown, black and grey silty sand filling to a depth of 0.3 m was underlain by grey and brown shale to a depth of 1.1 at which depth push tube refusal was encountered.

At Bore 225, drilled within a landscape area, brown silty sand filling to a depth of 0.2 m was underlain by brown, red, yellow and orange clay to a depth of 1.6 m then red and brown shale to a depth of 2.2 m at which depth push tube refusal was encountered. No visual signs of impact on the soil from the former gross sediment trap were observed.

At Bore 226, drilled within a landscape area, brown silty clay filling to a depth of 0.3 m was underlain by grey, orange and red clay to a depth of 1.6 m then grey shale to a depth of 2.4 m at which depth push tube refusal was encountered.

At Bore 227, grey gravel filling (roadbase) was observed to a depth of 0.5 m. Filling was underlain by grey and mottled brown and orange silty clay and orange mottled brown clay to a depth of 1.7 m then grey-brown shale to a depth of 2.5 m at which depth push tube refusal was encountered.

At Bores 228 and 229, grey and brown gravel filling (roadbase) was observed to depths of 0.6 m and 1.0 m, respectively. A black bituminous substance material was noted in the filling at Bore 228. Filling was underlain by grey, brown and orange clay to depths of 1.3 m at Bore 228 and 2.1 m at Bore 229. Clay was underlain by grey and brown shale to depth of 3.1 m at Bore 228 and 3.0 m at Bore 229 at which depths push tube refusal was encountered.

Bores 230 to 241 were drilled through concrete (of 0.1 m approximate thickness) at the footprint pf the former bitumen ASTs. Observed filling depths were highly variable, including no observed filling beneath concrete at Bore 239 (although possibly reworked clay was observed to a depth of 0.2 m) and a filling depth of 2.8 m at Bore 234. The variable filling depth may be related to the construction of the retaining structure to the immediate south of these sample locations. Filling comprised brown, red, yellow, orange and grey sandy clay filling; brown, red, orange and yellow gravelly clay filling; dark grey gravel filling; brown, red and black clay filling; grey shale filling. Concrete fragments were observed in the filling at Bore 231 (depth 0.1 – 2.1 m), Bore 235 (depth 0.1-0.4 m) and Bore 237 (depth 0.1 – 1.2 m). Ash, a slight odour and possible staining was observed in the filling at Bore 232 (depth 0.12 – 0.8 m). At Bore 233, wood (at depth 0.1 – 1.0 m) and ash (at depth 0.1 – 2.2 m) was observed in the filling. Ash was also observed at Bore 234 (depth 0.2 - 0.5m) and Bore 240 (depth 0.1 - 1.9 m). At Bores 230, 233, 234, 235, 338 and 240 filling was underlain by grey, yellow, orange and brown sandy clay (observed up to 0.9 m thickness). At Bores 232, 236 and 237 filling was underlain by brown, red, orange and yellow silty clay (observed up to 0.7 m thickness). At Bore 239 and Bore 241, concrete and/or filling was underlain by grey, brown and red-brown clay (observed up to a thickness of 0.7 m). Grey, orange, yellow, red-brown, white and brown sandstone was encountered at Bores 230 (depth 2.7 - 2.8 m), 231 (depth 2.1 – 2.8 m) and 239 (depth 0.7 – 2.4 m). Push tube refusal on sandstone was encountered at Bore 236 at a depth of 1.5 m. Grey and brown shale was encountered at Bore 234 (depth 3.4 m to 4 m). Bores 232, 233, 235, 237, 238 and 240 were discontinued in natural soil at depths of between 2.1 m and 2.8 m.

At Bores 242 and 243, drilled at the former truck wash bay, concrete (0.1 m thick) was underlain by grey gravel filling (0.03 m thick). Filling was underlain by red, brown, yellow and orange clay (up to an observed thickness of 0.47 m) then grey, yellow, orange, red and brown sandy clay. Bores 242 and 243 were discontinued in sandy clay at depths of 2.0 m and 3.0 m, respectively.

At Bore 244, black, grey and brown gravelly sand filling (to 0.6 m depth) was underlain by brown gravelly clay filling with some concrete fragments (to 1.4 m depth) then brown, orange and grey gravelly sandy clay filling with some concrete fragments (to a depth of 2.5 m). Filling was observed to be underlain by brown-grey and orange sandy clay to a depth of 3.0 m at which depth the bore was discontinued.

No free groundwater was observed whilst drilling at any of the sampling locations.

The PID readings, as shown in the borehole logs in Appendix G, were all <5 ppm indicating a low potential for volatile compounds.

11.3 Laboratory Results

Laboratory certificates and chain of custody are provided in Appendix E. Laboratory results are summarised in Table 9 against the SAC.

Table 9: Summary of Results of Soil Analysis (All results in mg/kg unless otherwise stated)

Sample Location (Test Bore) or Sample ID	Sample Depth (m)	Soil Type	Metals								Polycyclic Aromatic Hydrocarbons (PAH)				Total Recoverable Hydrocarbons (TRH)						Volatile Organic Compounds (VOC)					Organochlorine Pesticides (OCP)										PCBs (total)	Phenols (total)	Coal Tar (Present/Absent)	Asbestos (detectable in ~40g soil sample)	Asbestos (detectable in ~ 500mL soil sample, %(w/w))	Asbestos (detectable in material sample)
			Arsenic	Cadmium	Chromium (III + VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzo(a)pyrene	Benzo(a)pyrene TEQ	Naphthalene	Total PAH	TRH C6-C10 less BTEX	TRH >C10-C16 less Naphthalene	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	Total Xylene	Other VOC	DDT	DDT+DDE+DDD	Aldrin + Dieldrin	Chlordane	Endosulfan (total)	Endrin	Heptachlor	HCB	Methoxychlor	Other OCP						
201	0-0.1	Natural (possible filling)	<4	<0.4	15	23	35	<0.1	11	63	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
BDA-050717	0-0.1	Natural (possible filling)	<4	<0.4	13	25	39	<0.1	9	70	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	-	-
202	0-0.05	Natural (possible filling)	<4	<0.4	11	21	28	<0.1	10	61	<0.05	<0.5	<0.1	<0.05	<25	170	<25	170	390	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
203	0-0.2	Filling	<4	<0.4	14	24	30	<0.1	9	52	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
203	2-2.2	Natural	<4	<0.4	6	41	18	<0.1	9	31	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
204	0-0.15	Filling	<4	0.9	6	120	30	0.1	5	120	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	470	620	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
205	0-0.1	Filling (possible natural)	4	0.8	12	84	35	<0.1	28	140	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	160	250	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
205	2.2-2.4	Natural	<4	<0.4	2	18	15	<0.1	4	4	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
206	0.2-0.5	Natural	<4	<0.4	3	22	8	<0.1	5	19	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
207	0.14-0.17	Filling	<4	<0.4	8	50	8	<0.1	38	37	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
207	0.4-0.6	Natural	<4	<0.4	2	32	18	<0.1	3	18	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	-	-	-
208	0.18-0.28	Filling	<4	<0.4	10	68	4	<0.1	67	35	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	-	NAD, <0.001% FA & AF	-
208	0.28-0.31	Filling	4	<0.4	10	43	11	<0.1	27	63	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
209	0.2-0.3	Filling	<4	<0.4	15	58	7	<0.1	53	44	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	120	<100	<0.2	<0.5	<1	<1	<PQL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
209	0.3-0.5	Filling	<4	<0.4	9	75	2	<0.1	49	32	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	0.16-0.24	Filling	<4	<0.4	58	50	8	<0.1	74	60	<0.05	<0.5	0.1	0.3	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BDC-040717	0.16-0.24	Filling	4	<0.4	66	48	7.1	<0.1	79	59	<0.5	<0.5	<0.5	<0.5	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.3	<PQL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
210	0.4-0.6	Natural	<4	<0.4	11	44	16	<0.1	19	66	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
211	0.16-0.23	Filling	<4	<0.4	66	29	5	<0.1	65	42	<0.05	<0.5	<0.1	0.3	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	-	NAD, <0.001% FA & AF	-
212	0-0.1	Filling	5	<0.4	16	30	20	<0.1	27	61	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	-	NAD, <0.001% FA & AF	-
BDC-050717	0-0.1	Filling	4	<0.4	17	30	20	<0.1	29	45	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	-	-	-
212	0.2-0.3	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
213	0.2-0.25	Filling	<4	<0.4	10	48	11	<0.1	42	51	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
213	0.3-0.4	Natural	<4	<0.4	4	49	14	<0.1	14	41	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
213 - [TRIPLICATE]	0.3-0.4	Natural	<4	<0.4	8	32	14	<0.1	13	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
214	0-0.2	Filling	<4	<0.4	20	56	9	<0.1	90	53	<0.05	<0.5	<0.1	0.1	<25	340	<25	340	3000	1200	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
214	0.2-0.3	Natural (possible filling)	<4	<0.4	7	34	16	<0.1	20	210	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
215	0-0.2	Filling	<4	<0.4	12	48	15	<0.1	38	68	0.1	<0.5	<0.1	0.2	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
215	0.5-0.8	Filling	<4	<0.4	18	42	13	<0.1	65	48	<0.05	<0.5	<0.1	<0.05	<25	120	<25	120	1000	440	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<5	Absent	-	-	-
216	0-0.2	Filling	<4	<0.4	8	39	15	<0.1	19	78	1.2	1.5	<0.1	7.7	<25	<50	<25	<50	140	220	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
216	0.4-0.6	Filling	<4	<0.4	8	30	11	<0.1	17	42	0.2	<0.5	<0.1	1.6	<25	55	<25	55	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
217	0-0.25	Filling	<4	<0.4	5	25	2	<0.1	3	11	0.5	0.6	0.1	6.5	<25	59	<25	59	1400	2900	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<5	Absent	-	-	-
217	0.25-0.5	Filling	<4	<0.4	18	53	19	<0.1	68	71	<0.05	<0.5	<0.1	<0.05	<25	930	<25	930	1100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218	0-0.1	Filling	<4	<0.4	8	71	8	<0.1	6	33	0.4	<0.5	<0.1	3.5	<25	<50	<25	<50	870	1800	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
218	0.2-0.5	Filling	5	<0.4	30	120	10	<0.1	17	40	0.2	<0.5	<0.1	1.5	<25	68	<25	68	390	920	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
BDB-040717	0.2-0.5	Filling	<4	<0.4	4	19	11	<0.1	5	18	0.09	<0.5	<0.1	0.09	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
219	0-0.2	Filling	5	<0.4	16	40	13	<0.1	34	61	0.3	<0.5	<0.1	2.3	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
220	0-0.2	Filling	<4	<0.4	11	51	6	<0.1	31	40	0.62	0.8	<0.1	4.4	<25	<50	<25	<50	830	1700	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
221	0-0.1	Filling	9	<0.4	5	25	10	<0.1	12	41	0.52	0.7	<0.1	4.2	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
221	0.3-0.5	Filling	<4	<0.4	5	20	5	<0.1	16	20	0.2	<0.5	<0.1	0.93	<25	<50	<25	<50	130	180	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
222	0.3-0.5	Filling	9	<0.4	7	37	13	<0.1	17	65	0.2	<0.5	<0.1	1.6	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
222	1.3-1.4	Filling	<4	<0.4	7	41	11	<0.1	10	31	2.4	3.3	<0.1	25	<25	<50	<25	<50	270	220	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	Absent	-	-
223	0.1-0.3	Filling	<4	<0.4	9	24	15	<0.1	35	120	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
223	0.4-0.6	Natural	<4	<0.4	5	34	15	<0.1	15	59	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
224	0-0.2	Filling	<4	1	18	170	91	<0.1	51	740	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	250	140	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
224	0.4-0.6	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-
BD4/040717	0.4-0.6	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
225	0-0.2	Filling	<4	1	11	82	100	<0.1	8	220	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	140	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	-	NAD, <0.001% FA & AF	-
226	0-0.2	Filling	5	<0.4	17	39	31	<0.1	27	88	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	NAD	-	-
227	0.3-0.4	Filling	<4	<0.4	7	47	16	<0.1	19	41	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	-	-	-	NAD	-	-
228	0.4-0.5	Filling	11	0.7	7	75	16	<0.1	13	100	0.05	<0.5	<0.1	0.4	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
228 - [TRIPLICATE]	0.4-0.5	Filling	7	<0.4	6	54	15	<0.1	11	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
229	0.2-0.3	Filling	8	<0.4	10	40	10	<0.1	20	44	0.08	<0.5	0.1	0.3	<25	<50	<25	<50	2400	950	<0.2	<0.5	<1	<1	<PQL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	0.1-0.4	Filling	<4	<0.4	21	34	17	<0.1	20	62	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD10/050717	0.1-0.4	Filling	<4	<0.4	19	34	15	<0.1	15	51	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
230	0.7-0.9	Filling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-	-
231	0.2-0.5	Filling	<4	<0.4	18	26	14	<0.1	23	39	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
231	0.9-1.2	Filling	<4	<0.4	13	38	17	<0.1	25	89	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
232	0.15-0.3	Filling	<4	<0.4	18	45	22	<0.1	29	67	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<5	-	-	-	-
232	1.5-1.8	Filling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD, <0.001% FA & AF	-
233	0.1-0.3	Filling	<4	<0.4	22	31	15	<0.1	29	52	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD, <0.001% FA & AF
BD9/050717	0.1-0.3	Filling	<2	<0.4	21	32	14	<0.1	28	73	<0.5	<0.5	<0.5	<0.5	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
233	1.1-1.4	Filling	<4	<0.4	9	24	10	<0.1	7	33	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
234	0.2-0.5	Filling	<4	<0.4	18	35	15	<0.1	24	52	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
235	0.1-0.3	Filling	<4	<0.4	17	33	16	<0.1	26	49	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
235	0.5-0.7	Filling	<4	<0.4	14	30	12	<0.1	24	59	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD8/050717	0.5-0.7	Filling	3.8	<0.4	17	31	14	<0.1	28	72	<0.5	<0.5	<0.5	<0.5	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
236	0.2-0.5	Filling	<4	<0.4	11	51	19	<0.1	20	85	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
237	0.1-0.3	Filling	<4	<0.4	13	35	15	<0.1	10	55	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
238	0.1-0.3	Filling	<4	<0.4	21	33	15	<0.1	24	52	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
239	0.2-0.5	Natural	<4	<0.4	21	32	16	<0.1	28	48	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	0.1-0.3	Filling	<4	<0.4	20	25	14	<0.1	13	37	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
240	0.8-1.0	Filling	<4	<0.4	20	39	17	<0.1	26	75	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
241	0.12-0.4	Filling	<4	<0.4	20	31	15	<0.1	24	47	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	-	-	NAD	-	-
242	0.2-0.5	Filling	<4	<0.4	18	28	14	<0.1	20	55	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
243	0.15-0.3	Natural	<4	<0.4	20	31	14	<0.1	21	69	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
244	0-0.3	Filling	<4	0.6	73	66	28	<0.1	8	46	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	-
244	1.5-1.7	Filling	<4	<0.4	13	38	14	<0.1	22	62	<0.05	<0.5	<0.1	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
245	0.3-0.5	Filling	<4	<0.4	52	34	6	<0.1	61	51	<0.05	<0.5	<0.1	0.3	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<PQL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<PQL	<0.1	<5	-	-	NAD, <0.001% FA & AF	-
A1	Surface	Material	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AD
Assessment Criteria [sourced from NEPC (2013)]																																								
HIL (D)			3000	900	3600 for Cr (VI)	240000	1500	730	6000	400000	-	40	-	4000	-	-	-	-	-	-	-	-	-	-	-	3600	45	530	2000	100	50	80	2500	-	7	660*	-	-	-	-	-
HSL (D) for Vapour Intrusion			-	-	-	-	-	-	-	-	-	-	NL	-	260	NL	-	-	-	-	3	NL	NL	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL			160	-	540 for Cr(III)	290	1800	-	310	700	-	-	370	-	-	-	-	-	-	-	-	-	-	-	-	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESL			-	-	-	-	-	-	-	-	1.4	-	-	-	215	-	-	170	1700	3300	75	135	165	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limit			-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1000	3500	10000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Screening Level			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	FA & AF: 0.001%	-

Notes:

BDA-050717 is blind replicate from Bore 201, depth 0-0.1 m
BDC-040717 is blind replicate from Bore 210, depth 0.16-0.24 m
BDC-050717 is blind replicate from Bore 212, depth 0-0.1 m
BDB-040717 is blind replicate from Bore 218, depth 0.2-0.5 m
BD4/040717 is blind replicate from Bore 224, depth 0.4-0.6 m
BD10/050717 is blind replicate from Bore 230, depth 0.1-0.4 m
BD9/050717 is blind replicate from Bore 233, depth 0.1-0.3 m
BD8/050717 is blind replicate from Bore 235, depth 0.5-0.7 m
PQL Practical Quantitation Limit
* Value for pentachlorophenol
NL Not Limiting
NAD No asbestos detected at the limit of reporting (<0.1 g/kg) or from trace analysis
AD Asbestos detected
A1 Fibre-cement sample
BOLD Exceeds EIL or ESL
AF Asbestos fines
- Not tested / Not applicable
TEQ Toxicity Equivalent Quotient
FA Fibrous asbestos
213 - [TRIPLICATE] Laboratory triplicate for sample from Bore 213, depth 0.3-0.4 m
228 - [TRIPLICATE] Laboratory triplicate for sample from Bore 228, depth 0.4-0.5 m

12. Discussion of Analytical Results

Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel were generally low and within the respective HIL and EIL. It is noted that concentrations of arsenic, cadmium, chromium, copper, lead and mercury are similar to those encountered by URS, as summarised in URS (2013c). Some slightly more elevated concentrations of nickel were encountered by URS, but the maximum nickel concentration of 202 mg/kg listed in URS (2013c) is within the EIL and HIL for the current investigation.

Concentrations of zinc were within the HIL (400 000 mg/kg) and EIL (700 mg/kg), except for the filling sample from Bore 224, depth 0-0.2 m, which had a concentration of 740 mg/kg which is slightly above the EIL. It is noted that the location of Bore 224 is designated for truck access as part of the proposed development and, therefore, is not within an area of (future) ecological value. Furthermore, statistical analysis of all zinc concentrations in filling (when using the highest values of replicate pairs as input values from the current investigation) using ProUCL 5.0 (computer program) indicates that the elevated zinc concentration of 740 mg/kg (slightly above the EIL) is not significant (given the output values of a mean of 73.45 mg/kg, standard deviation of 99.03 mg/kg which is less than half the EIL, and a suggested 95% Chebyshev UCL of 132.7 mg/kg which is well within the EIL). It is noted that zinc concentrations in soil listed in URS (2013c) ranged up to 130 mg/kg and, therefore, are within the EIL and HIL for the current investigation. It is also noted that zinc concentrations in groundwater for URS (2012a) were considered by URS to be at background levels (see Section 3.3).

Concentrations of benzo(a)pyrene were generally low and within the ESL (1.4 mg/kg) except for the filling sample from Bore 222, depth 1.3 -1.4 m, which had a concentration of 2.4 mg/kg. It is noted that the location of Bore 222 is not within an area designated for truck access and therefore, is not within an area of (future) ecological value. It is noted that the benzo(a)pyrene ESL is a low reliability value. Higher reliability screening levels have been published in CRC CARE (2017*), Risk-based Management and Remediation Guidance for Benzo(a)pyrene*, *CRC CARE Technical Report no. 39.* The high reliability ecological value of 172 mg/kg (or ranging from 57 to 1371 mg/kg) for fresh benzo(a)pyrene (for a commercial or industrial land use) suggests that the concentration of benzo(a)pyrene encountered at Bore 222, depth 1.3 -1.4 m, does not pose a risk to terrestrial ecology (given that aged benzo(a)pyrene in soil tends to be less bioavailable than fresh benzo(a)pyrene according to CRC CARE, 2017). It is also noted, as stated in Section 3.6, URS did not identify benzo(a)pyrene (or other PAH) in groundwater from their last round of groundwater monitoring, which suggests that residual benzo(a)pyrene in soil does not pose a risk to groundwater.

Concentrations of benzo(a)pyrene TEQ, naphthalene and total PAH were well within the respective HIL, HSL, and EIL. It is noted that concentrations of PAH were similar to those encountered by URS, as summarised in URS (2013c).

TRH C_6-C_{10} and BTEX were not detected above the laboratories' limits of reporting in any analysed sample and, therefore, concentrations of TRH C_6-C_{10} and BTEX were well within the respective HSL, ESL and Management Limit. VOC was not detected above the laboratories' limits of reporting in any analysed sample.

Concentrations of TRH >C_{10}-C_{16} were within the ESL and Management Limit (as well as the HSL which is 'not limiting') except in filling samples from Bore 214, depth 0 - 0.2 m, and Bore 217, depth

0.25 - 0.5 m, which had concentrations (340 mg/kg and 930 mg/kg, respectively) above the ESL (170 mg/kg) but within the Management Limit (1000 mg/kg). It is noted that the concentration of TRH >C_{10}-C_{16} in the sample from Bore 201, depth 0 - 0.1 m, was equal to the ESL.

Concentrations of TRH >C_{16}-C_{34} were within the ESL and Management Limit except in the samples from Bore 214, depth 0-0.2 m, and Bore 229, depth 0.2-0.3 m, which had concentrations (3000 mg/kg and 2400 mg/kg, respectively) above the ESL (1700 mg/kg) but within the Management Limit (3500 mg/kg).

Concentrations of TRH >C_{34}-C_{40} were within the ESL and Management Limit for all analysed samples.

The TRH chromatogram (provided in Appendix E) for the sample from Bore 202, depth 0 - 0.05 m, has a response similar to 'eucalyptus wood chip' (from Envirolab Services Pty Ltd, *Hydrocarbon Reference Library*). It is therefore considered that the detectable TRH was sourced from the eucalyptus trees at this part of the site rather than a petroleum product.

Asphalt fragments were observed in the filling at Bore 214 to a depth of 0.2 m and may be the source of the detectable TRH at this location and depth. The TRH chromatogram (provided in Appendix E) for the sample from Bore 214, depth 0-0.2 m, has a response similar to 'asphalt (no coal tar)' which also suggests that the source of the detected TRH in this sample is from asphalt fragments in the filling.

Charcoal was observed in the filling at Bore 217, depth 0.25 - 0.7m, and may be the source of the detected TRH in the sample collected at a depth of 0.25 - 0.5 m from this location. A bituminous substance was also observed in the filling at this sample location at a depth of 0 - 0.25 m and may have (slightly) added to the detected TRH in the sample collected at a depth of 0.25 - 0.5 m. A likely source of TRH could not be confirmed from a review of the TRH chromatogram (provided in Appendix E) for the sample from Bore 217, depth 0.25 - 0.5 m.

The sample from Bore 229, depth 0.2-0.3, was from filling observed to comprise roadbase and, therefore, may be associated with road materials in the filling. The TRH chromatogram for this sample (provided in Appendix E) has a response not dissimilar to 'asphalt (no coal tar)' which also suggests that road materials in the filling may be the source of TRH in this sample.

It is noted that the sample locations where TRH concentrations in excess of the ESL are all within parts of the site which do not have ecological value for the proposed development. This includes Bore 214 which is close to a proposed truck dumping area and new infrastructure, and Bore 217 and 229 which are located at areas proposed for truck access. It is also noted that soil containing concentrations of TRH above the ESL (but within the Management Limits) was kept (or reused) at site during the remediation works that was validated by URS (URS, 2013b) and the remediated areas are not in future landscape areas that have ecological value. As stated in Section 3.6, URS did not identify TRH in groundwater from their last round of groundwater monitoring, which indicates that the residual TRH in soil does not pose a risk to groundwater.

OCP, PCB and total phenols were not detected above the laboratories' limits of reporting in any analysed sample.

Coal tar was absent in analysed samples.

Asbestos was not detected above the laboratory's limit of reporting (0.1 g/kg) or from trace analysis (below the limit of reporting) in all ~40 g soil samples. Asbestos (including FA and AF) was not identified in any analysed ~500 mL soil sample and, therefore, all FA and AF concentrations were within the HSL.

Asbestos was identified in the fibre-cement material sample (A1). It is noted that the fibre-cement was an isolated find on the soil surface and was removed from site as a sample.

13. Conclusion and Recommendations

Overall, it is considered that the field and analytical results of this investigation has not revealed contamination that warrants remediation (despite the detected concentrations of metals, PAH and TRH in soil) and, therefore, a Remediation Action Plan is not required for the proposed development. The residual TRH in soil at the site is considered to not pose a risk to terrestrial ecology, human health or groundwater (based on current and previous investigation results) when considering the proposed development plans.

Asbestos was not detected or observed in soil samples. Following the collection of fibre-cement sample (A1) which was probably sourced from fly tipping at the front of the site, no other ACM was observed on the ground surface. Given that the front of the site is not completely fenced off to the public, this part of the site is susceptible to fly tipping and, therefore, ACM (or other hazardous materials) may be tipped at this part of the site subsequent to this investigation.

Given that the site has had previously contained numerous potentially contaminating sources, there is a reasonable potential for contamination to exist between sampled locations, and there is the possibility of future fly tipping, it is recommended that the Unexpected Finds Protocol (UFP) provided in DP (2017a) is adopted for the development of the site.

Based on the findings of this investigation and a review of previous investigations results, it is considered that the site is suitable for the proposed development.

14. Limitations

Douglas Partners (DP) has prepared this report (or services) for this project at 24 Davis Road, Wetherill Park in accordance with DP's proposal (SYD170620.P.001.Rev0) dated 29 May 2017 and its subsequent revision (SYD170620.P.001.Rev0) emailed on 27 June 2017 and accepted by John Vyse of Bettergrow Pty Ltd dated 28 June 2017. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Bettergrow Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Asbestos has not been detected in soil samples by observation or by laboratory analysis at the test locations sampled and analysed. Building demolition materials, such as concrete, were, however, located in some filling, and these are considered as indicative of the possible presence of hazardous building materials (HBM), including asbestos.

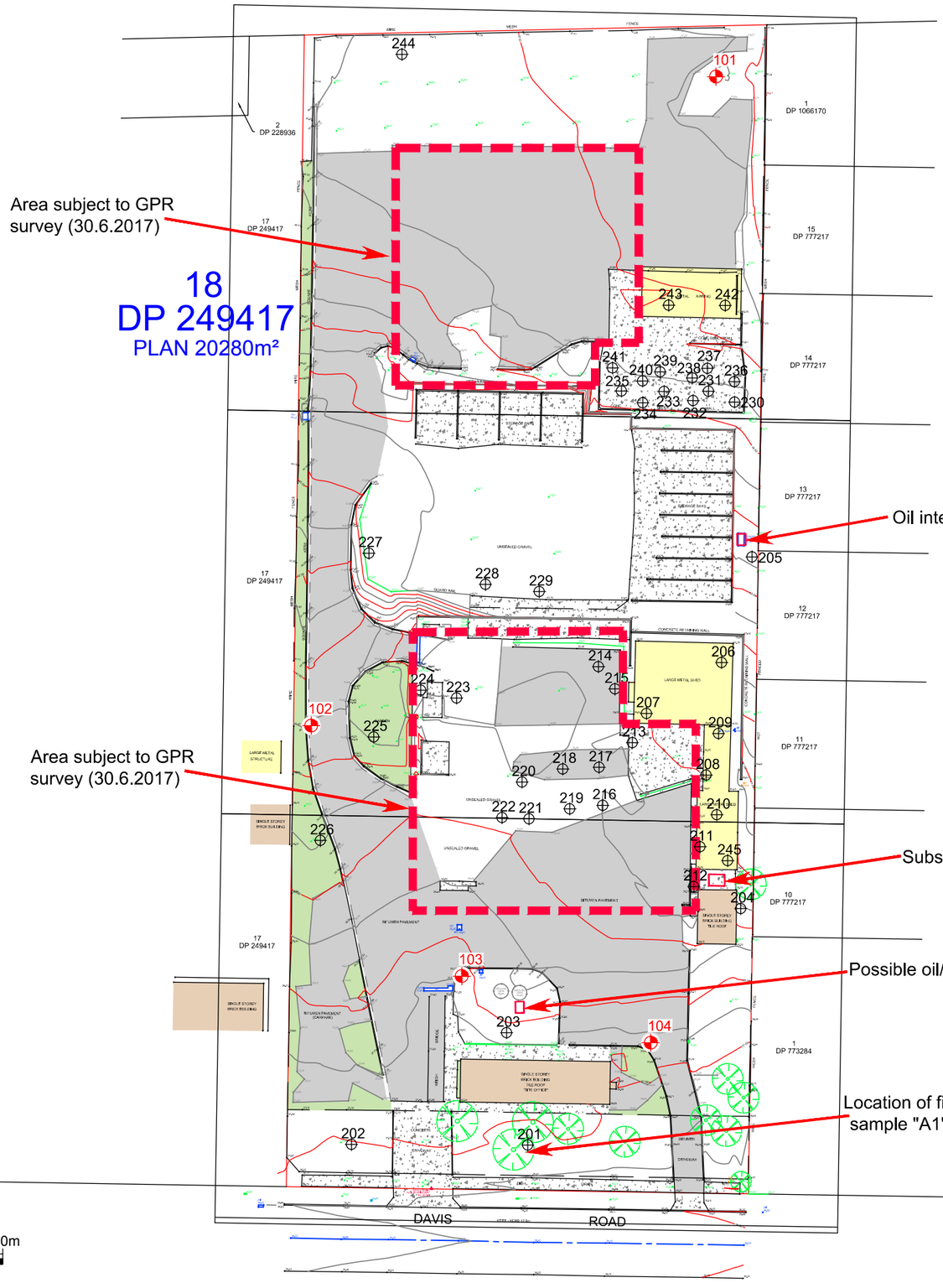
Although the sampling plan adopted for this investigation is considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been sampled and analysed. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present.

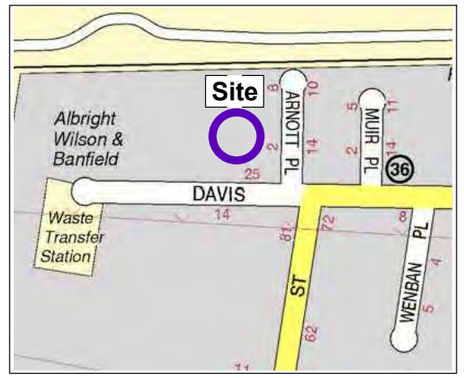
The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP. DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the (geotechnical / environmental / groundwater) components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

Douglas Partners Pty Ltd

Appendix A

Drawings





Locality Plan

NOTE:
1: Base drawing from RPS Pty Ltd (Ref 127695-151014-Detail, dated 14.10.2015)
2: Test locations are approximate only and are shown with reference to existing features.

0 10 20 30 40 50 75 100m

1:1000 @ A3

LEGEND

- Previous borehole location (ground water monitoring well)
- Current borehole location (for soil sampling)

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Bettergrow Pty Ltd		TITLE: **Location of Boreholes**	PROJECT No: 85126.03
OFFICE: Sydney	DRAWN BY: Vojta	**Proposed Resource Recovery & Recycling Centre**	DRAWING No: 1
SCALE: 1	DATE: 14.7.2017	**24 Davis Road, WETHERILL PARK**	REVISION: 0

ODOUR SCRUBBER TOWERS

WATER STORAGE TANKS

HOOKLIFT TRUCK

ORGANICS BUILDING REFER SHEETS B01–B04

OFFICE LOCATION 18.8m X 6m REFER SHEET D01

REVERSING AND EXIT TRUCK AND TRAILER ASSUMED 19m LONG

FOOD DEPACKAGING BUILDING REFER SHEETS C01–C03

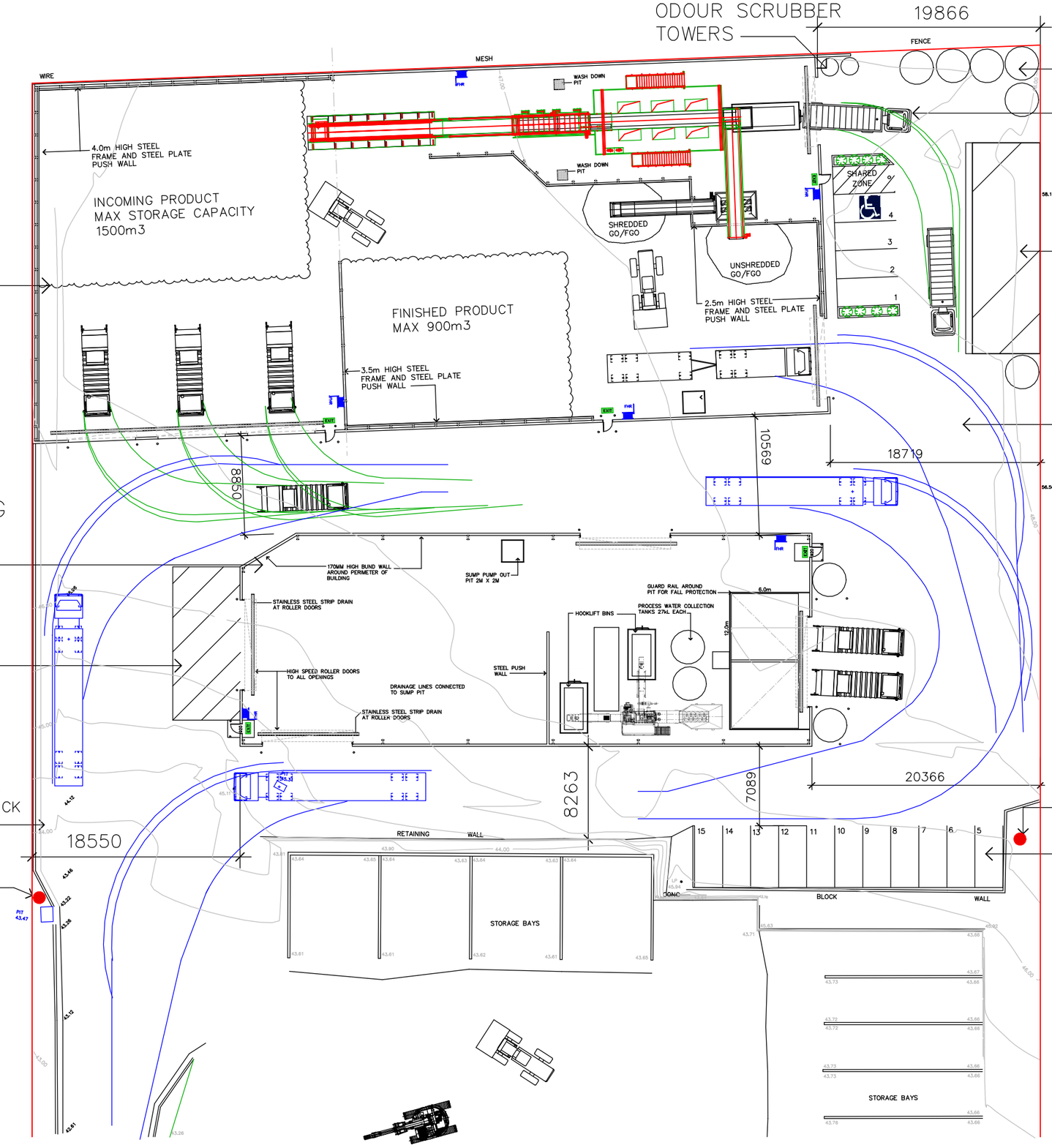
TRUCK LOADING BAY 6m x 13.5m

WIDEN ROAD TO ALLOW FOR TRUCK TURNING

NEW FIRE HYDRANT STAND POINT AS PER AUSTRALIAN STANDARDS

NEW FIRE HYDRANT STAND POINT AS PER AUSTRALIAN STANDARDS

CARPARKING 11 SPACES



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10. SMOKE DETECTORS TO BE INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE

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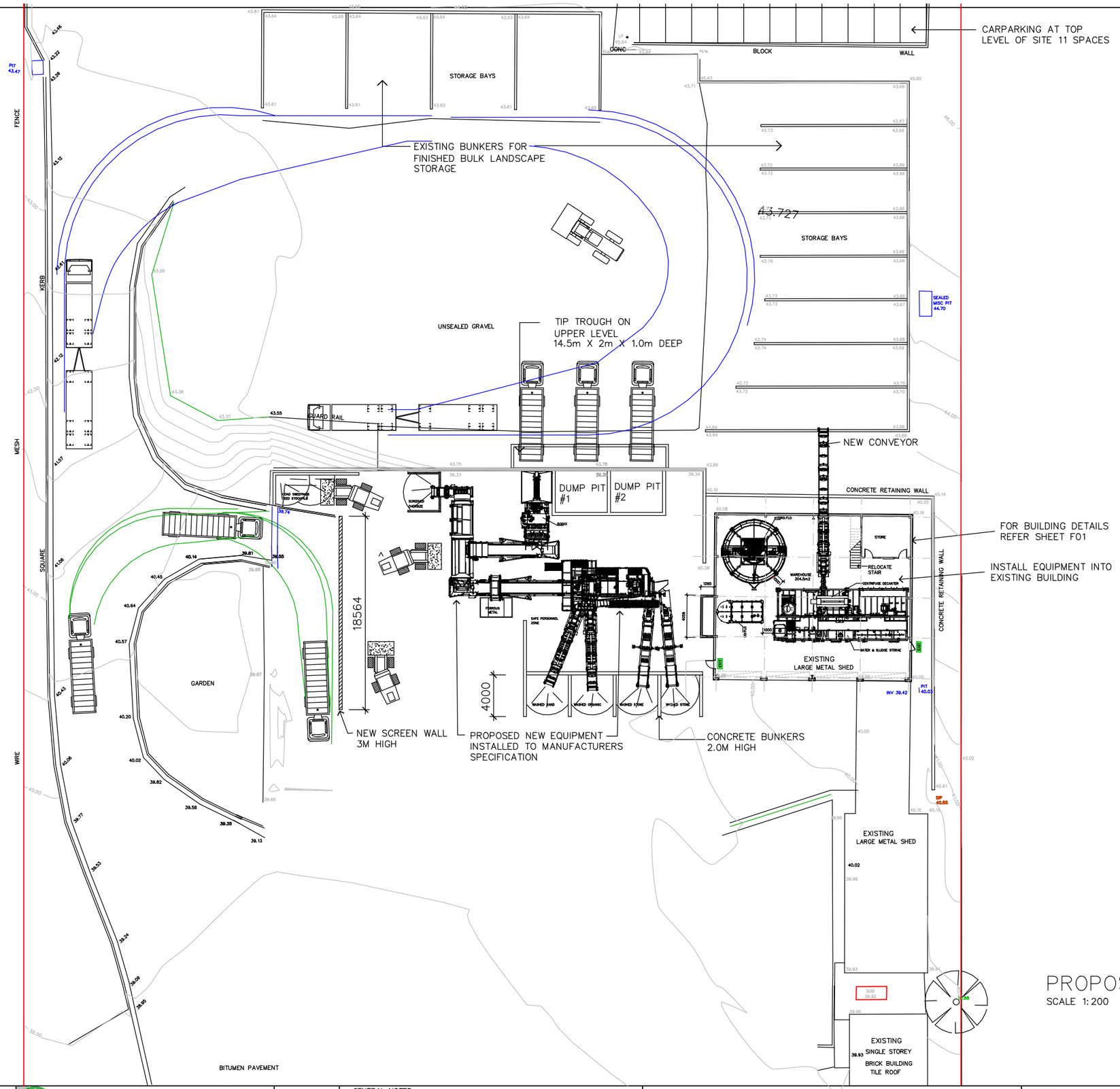
PROJECT NO.	1521
CLIENT	BETTERGROW
SCALE	1: 200
TITLE	ORGANICS RECEIVAL AND PROCESS BUILDING SITE PLAN
JOB NO.	0604–16
SHEET NO.	A02
ISSUE	A

A1 SHEET



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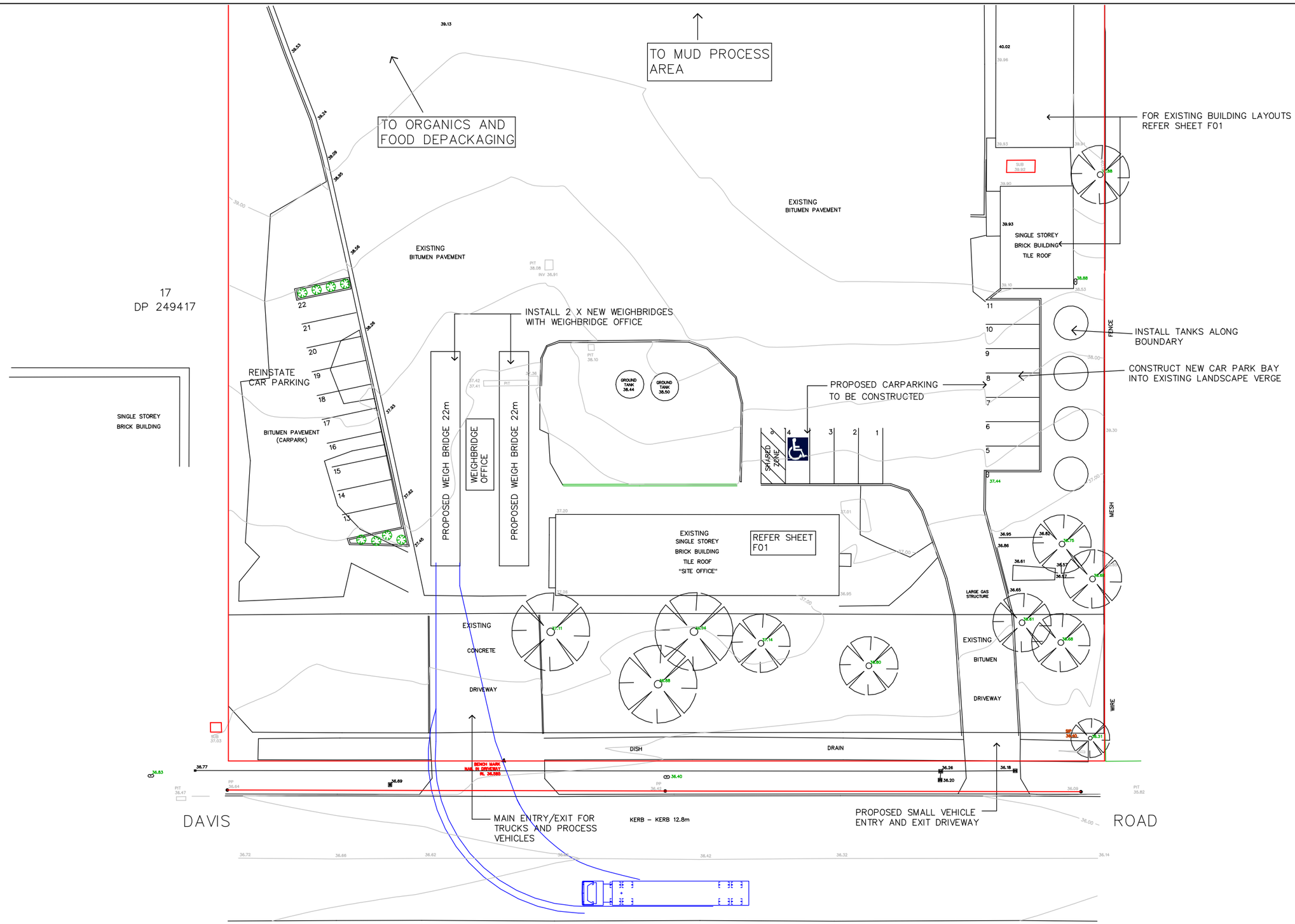
PROJECT NO.	1521
CLIENT	BETTERGROW
SCALE	1: 200
TITLE	MUD PROCESS AREA PROPOSED SITE PLAN
JOB NO.	0604– 16
SHEET NO.	A03
ISSUE	A

A1 SHEET



PROPOSED PART SITE PLAN

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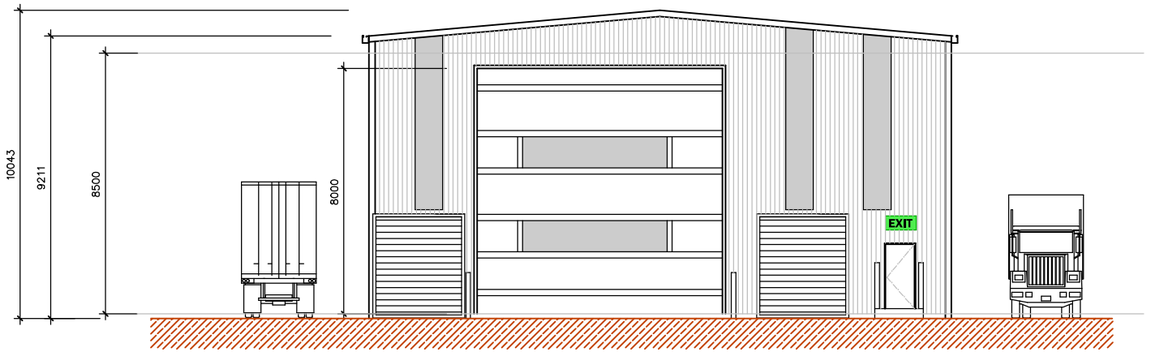
PROJECT NO.	1521
CLIENT	BETTERGROW
SCALE	1: 200
TITLE	SITE ENTRY AND PARKING PROPOSED SITE PLAN
JOB NO.	0604– 16
SHEET NO.	A04
ISSUE	A

A1 SHEET



EAST ELEVATION

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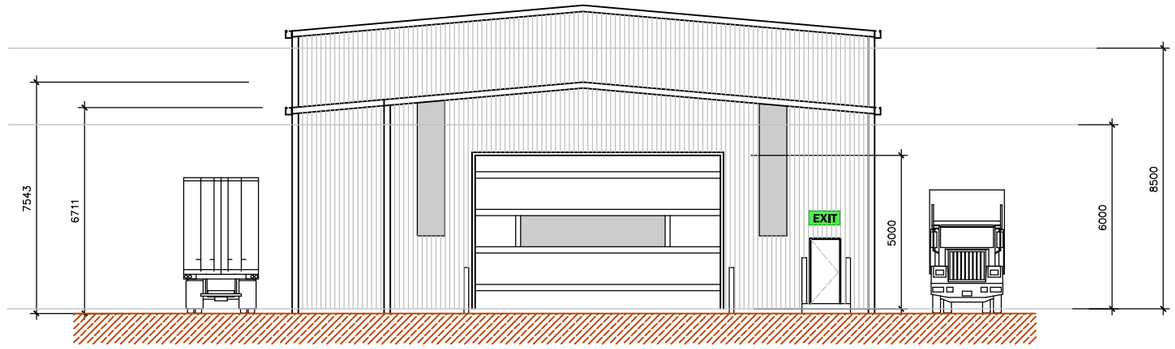

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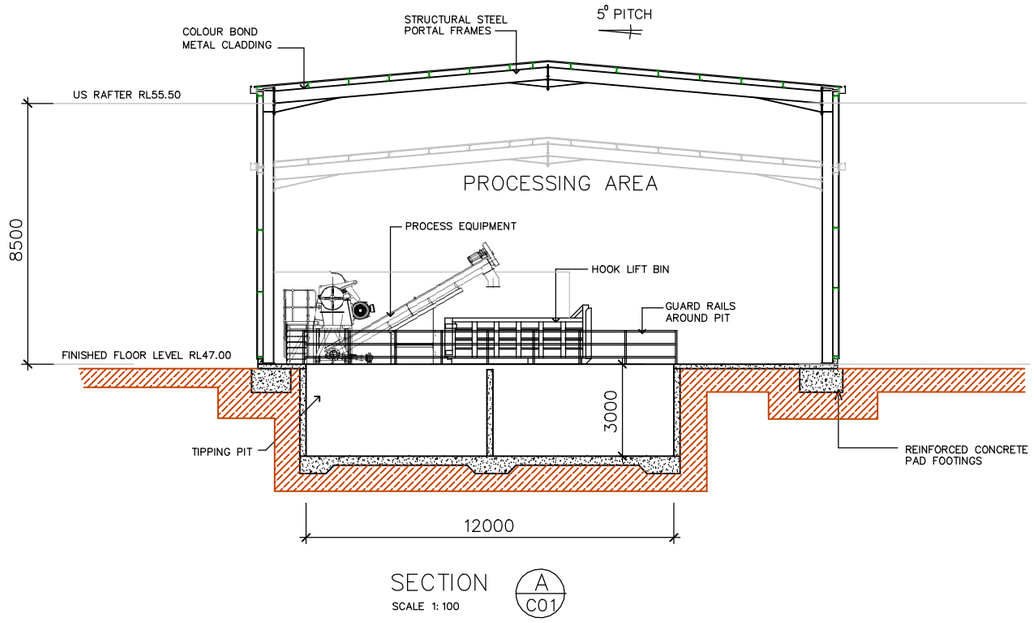

SECTION A C01

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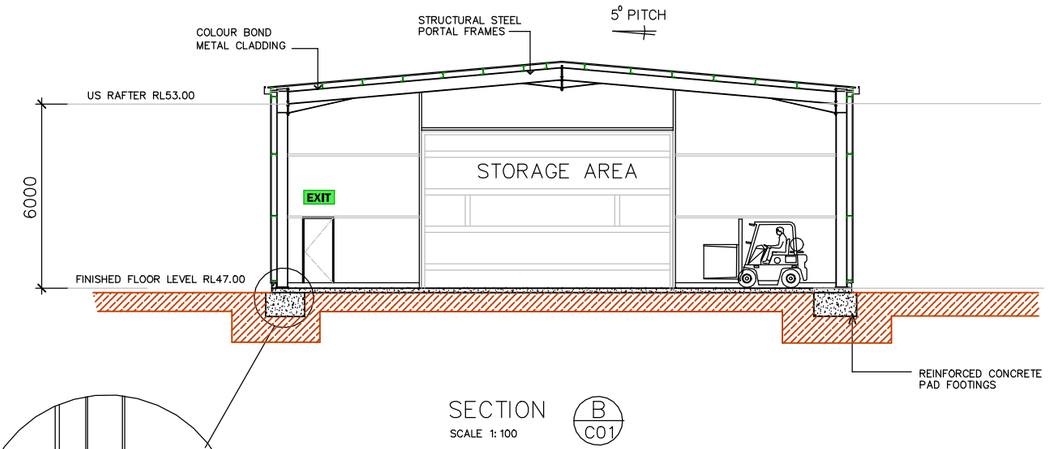

SECTION B C01

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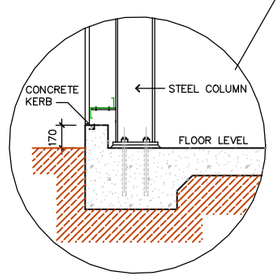

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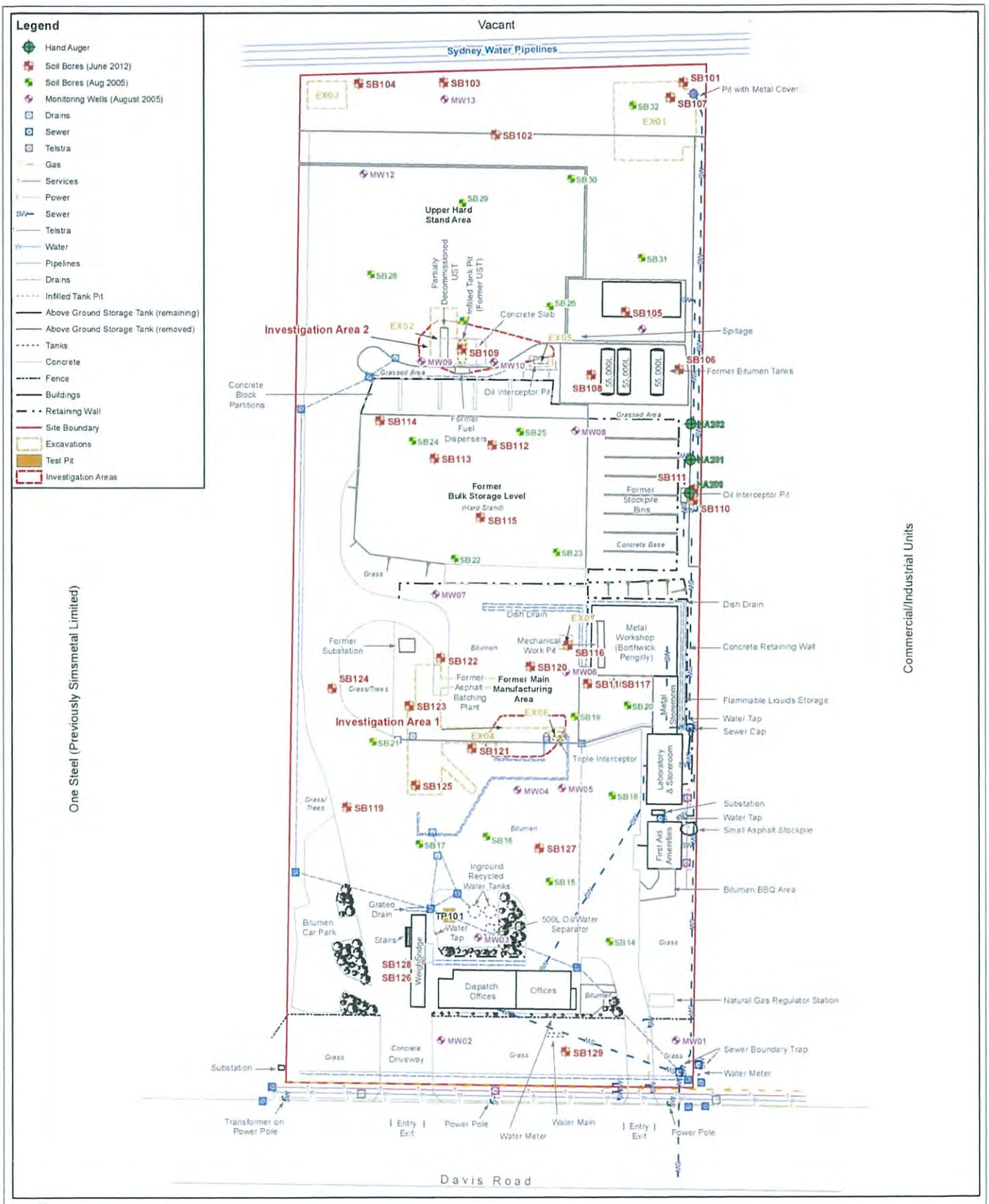
PROJECT	PROPOSED GREENSPOT RESOURCE RECOVERY AND RECYCLING FACILITY 24 DAVIS ROAD WETHERILL PARK NSW 2164		PROJECT NO. 1521
CLIENT	BETTERGROW		SCALE 1: 100
TITLE	FOOD DEPACKAGING AND PROCESS BUILDING FLOOR PLAN	JOB NO. 0604– 16	SHEET NO. C03 / ISSUE A

A1 SHEET



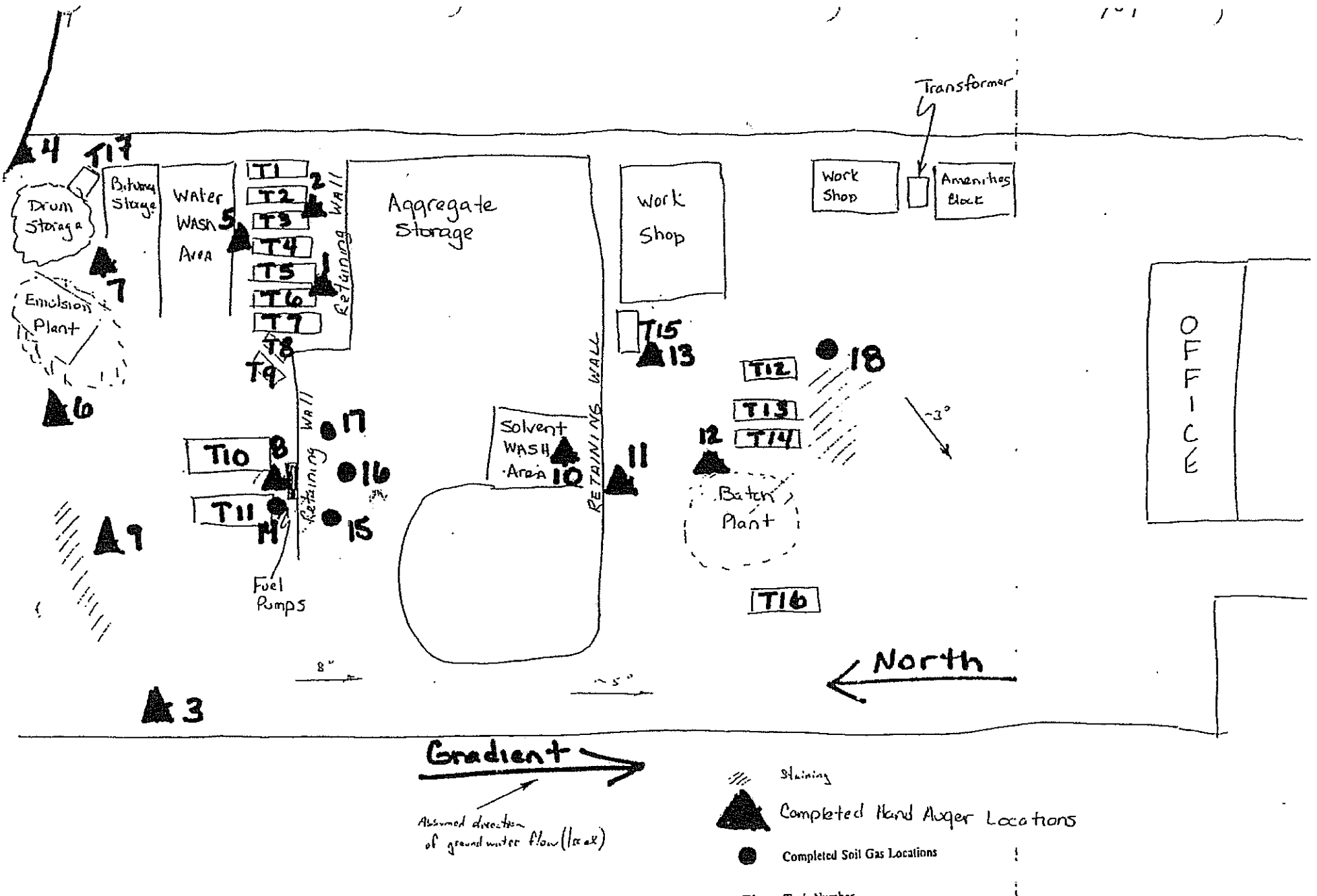
MOBIL OIL AUSTRALIA

WETHERILL PARK ENVIRONMENTAL SUMMARY REPORT, FORMER WETHERILL PARK EMOLEUM DEPOT

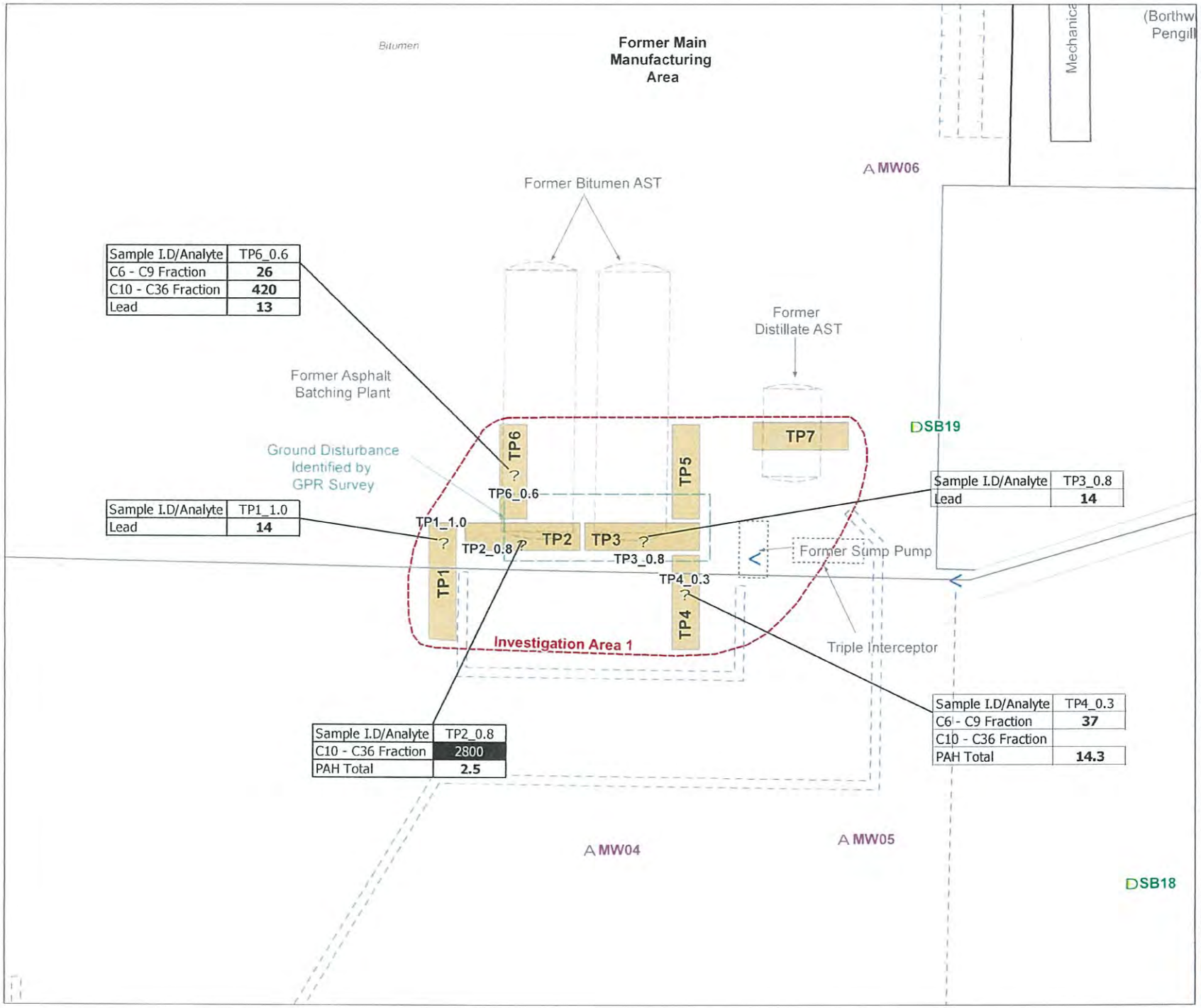
INVESTIGATION LOCATIONS

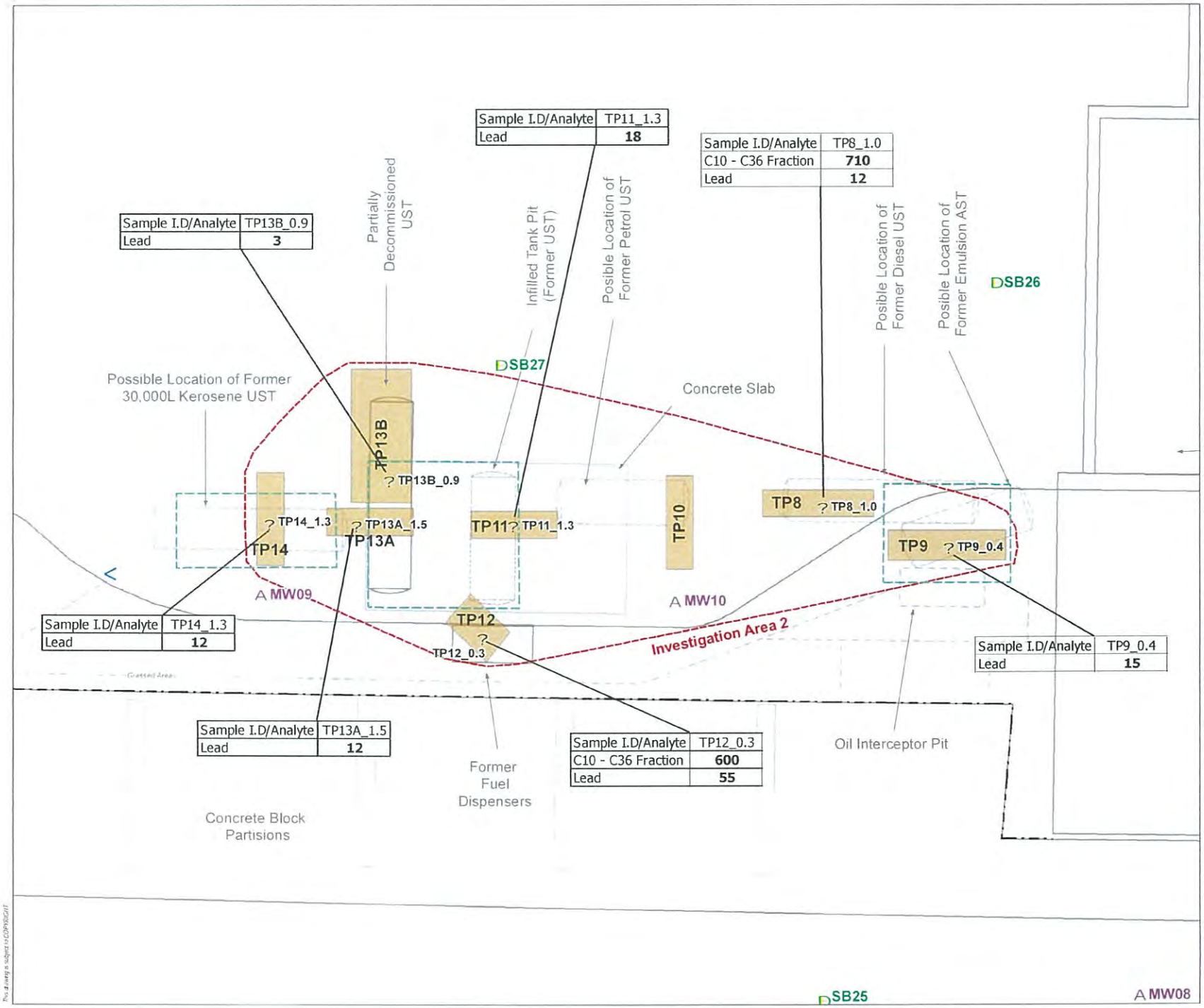
URS | 24 DAVIS ROAD, WETHERILL PARK, NSW | Figure: 3

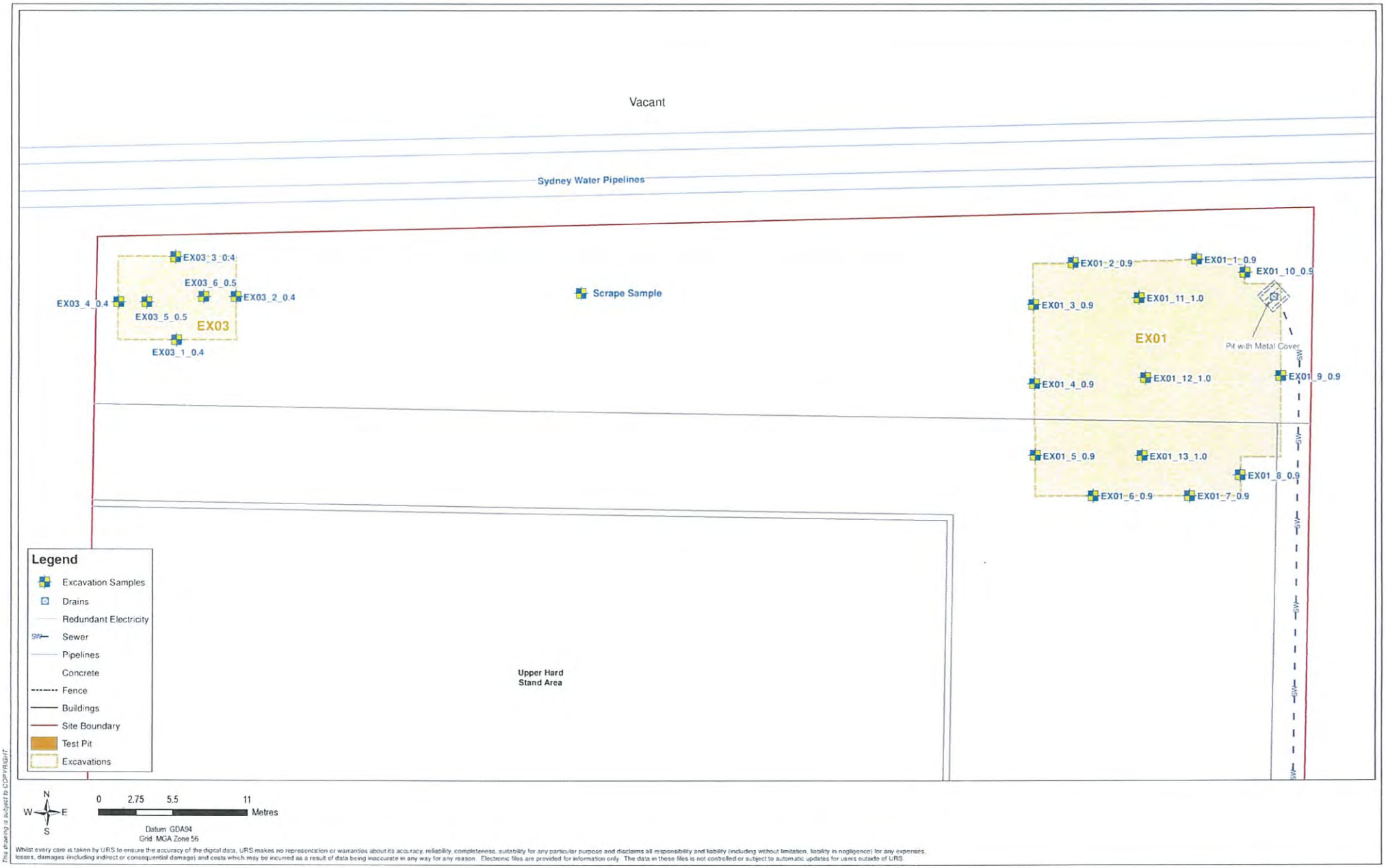
File No: 42424443 022.mxd | Drawn: STB | Approved: RS | Date: 13/02/2013 | Rev: A | A3


Transformer
Work Shop
Amenities Block
OFFICE
Drum Storage
Bituray Storage
Water Wash Area
Aggregate Storage
Work Shop
Emulsion Plant
Retaining Wall
Retaining Wall
Retaining Wall
Solvent Wash Area
Batch Plant
Fuel Pumps
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
T14
T15
T16
T17
1
2
3
4
5
6
7
8
9
10
11
12
13
15
16
17
18
8"
~5°
~3°
North
Gradient
Assumed direction of groundwater flow (local)
Staining
Completed Hand Auger Locations
Completed Soil Gas Locations
TI Tank Number

DAMES & MOORE


Bitumen
Former Main Manufacturing Area
Mechanica
(Borthw
Pengill
MW06
Former Bitumen AST
Former Distillate AST
Former Asphalt Batching Plant
Ground Disturbance Identified by GPR Survey
DSB19
TP6
TP5
TP7
TP6_0.6
TP1_1.0
TP2
TP3
TP2_0.8
TP3_0.8
TP1
TP4_0.3
TP4
Former Sump Pump
Investigation Area 1
Triple Interceptor
MW04
MW05
DSB18
Sample I.D/Analyte | TP6_0.6
C6 - C9 Fraction | 26
C10 - C36 Fraction | 420
Lead | 13
Sample I.D/Analyte | TP1_1.0
Lead | 14
Sample I.D/Analyte | TP3_0.8
Lead | 14
Sample I.D/Analyte | TP2_0.8
C10 - C36 Fraction | 2800
PAH Total | 2.5
Sample I.D/Analyte | TP4_0.3
C6 - C9 Fraction | 37
C10 - C36 Fraction
PAH Total | 14.3
Legend
Detections
Soil Bores (Aug 2005)
Monitoring Wells (August 2005)
Drains
Sewer
Telstra
Gas
Sewer
Drains
Concrete
Buildings
Retaining Wall
Test Pits
Investigation Area
Ground Disturbance Identidifed by GPR Survey
Table Legend
Result >LOR
mg/kg = milligrams per kilogram
SAC = Soil Acceptance Criteria
LOR = Limits of Reporting
Note: Only detections over LOR are shown
0 1 2 4
Metres
Datum: GDA94
Grid: MGA Zone 56
PATH: T:\JOBS\42424436\WORKSPACES
FILE NO: 42424436.003B
DRAWN: STB APPROVED: MF DATE: 29/06/2012
MOBIL OIL AUSTRALIA
WETHERILL PARK TEST PITTING
FORMER WETHERILL PARK EMOLEUM DEPOT, 24 DAVIS ROAD, WETHERILL PARK, NSW
INVESTIGATION AREA 1
URS
Figure 5A
Rev. A
A3


Sample I.D/Analyte | TP13B_0.9
Lead | 3
Sample I.D/Analyte | TP11_1.3
Lead | 18
Sample I.D/Analyte | TP8_1.0
C10 - C36 Fraction | 710
Lead | 12
Partially Decommissioned UST
Infilled Tank Pit (Former UST)
Posible Location of Former Petrol UST
Posible Location of Former Diesel UST
Posible Location of Former Emulsion AST
DSB26
DSB27
Possible Location of Former 30,000L Kerosene UST
Concrete Slab
TP13B
? TP13B_0.9
? TP14_1.3
TP14
? TP13A_1.5
TP13A
TP11 ? TP11_1.3
TP10
TP8 ? TP8_1.0
TP9 ? TP9_0.4
A MW09
A MW10
TP12
? TP12_0.3
Investigation Area 2
Sample I.D/Analyte | TP14_1.3
Lead | 12
Sample I.D/Analyte | TP9_0.4
Lead | 15
Sample I.D/Analyte | TP13A_1.5
Lead | 12
Sample I.D/Analyte | TP12_0.3
C10 - C36 Fraction | 600
Lead | 55
Former Fuel Dispensers
Oil Interceptor Pit
Concrete Block Partisions
DSB25
A MW08
Legend
? Detections
Drains
D Soil Bores (Aug 2005)
A Monitoring Wells (August 2005)
Infilled Tank Pit
Drains
Concrete
Buildings
Retaining Wall
Former Tanks
Test Pits
Investigation Areas
Ground Disturbance Identified by GPR Survey
Table Legend
Result >LOR
mg/kg = milligrams per kilogram
SAC = Soil Acceptance Criteria
LOR = Limits of Reporting
Note: Only detections over LOR are shown.
0 1 2 4
Metres
Datum: GDA94
Grid: MGA Zone 56
PATH: T:\JOBS\42424436\WORKSPACES
FILE NO: 42424436_004B.mxd
DRAWN: STB APPROVED: MF DATE: 29/06/2012
MOBIL OIL AUSTRALIA
WETHERILL PARK TEST PITTING
FORMER WETHERILL PARK EMOLEUM DEPOT, 24 DAVIS ROAD, WETHERILL PARK, NSW
INVESTIGATION AREA 2
URS
Figure: 5B
Rev: A
A3



MOBIL OIL AUSTRALIA

WETHERILL PARK SOIL VALIDATION REPORT,
FORMER WETHERILL PARK EMOLEUM DEPOT

EXCAVATIONS 01 & 03
UPPER HARD STAND AREA

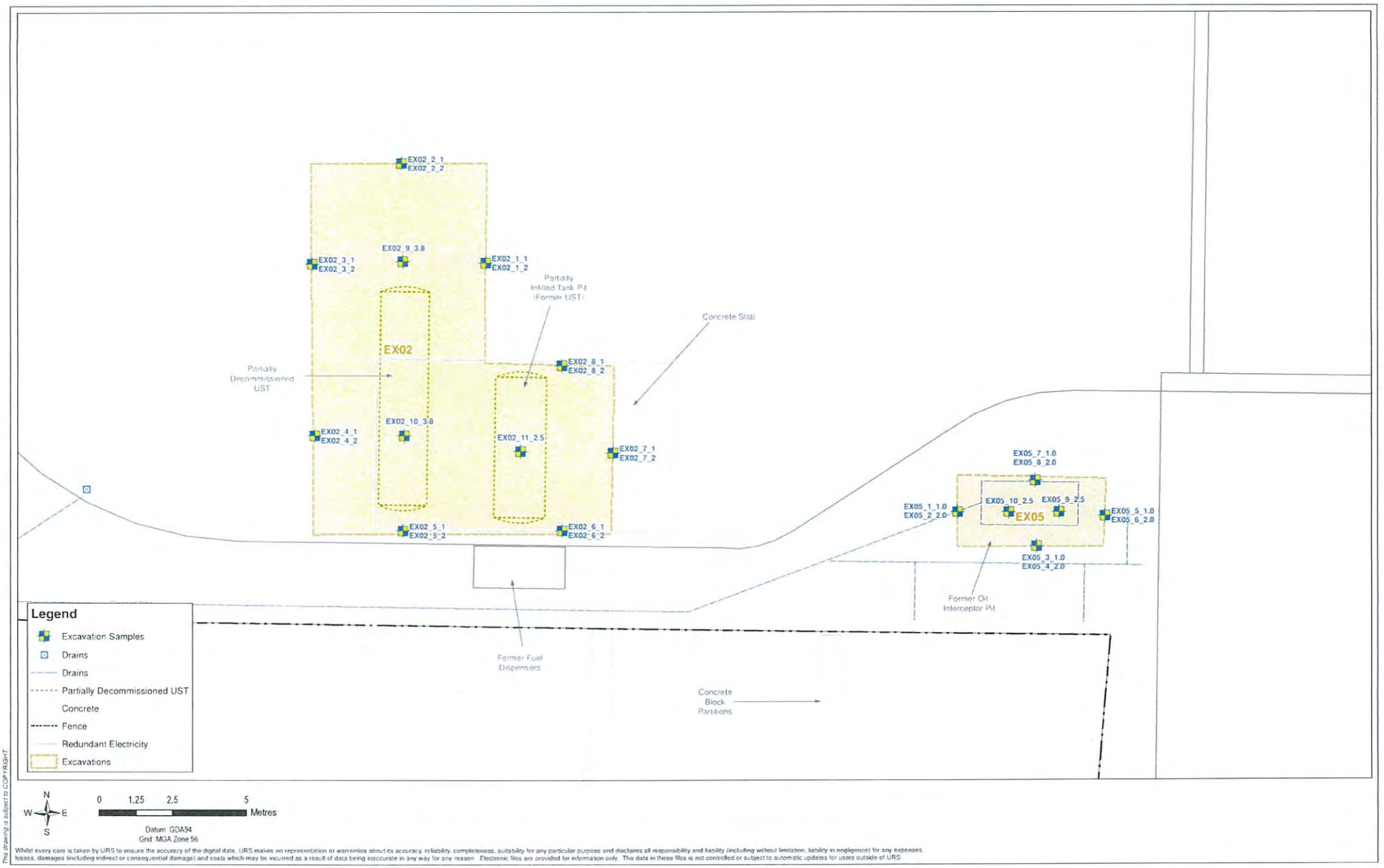
URS

24 DAVIS ROAD, WETHERILL PARK, NSW

File No: 42424443.015b.mxd Drawn: STB/SB Approved: SH Date: 18/04/2013

Figure: 4B

Rev: A A3



MOBIL OIL AUSTRALIA

WETHERILL PARK SOIL VALIDATION REPORT, FORMER WETHERILL PARK EMOLEUM DEPOT

EXCAVATIONS 02 & 05
UPPER HARD STAND AREA

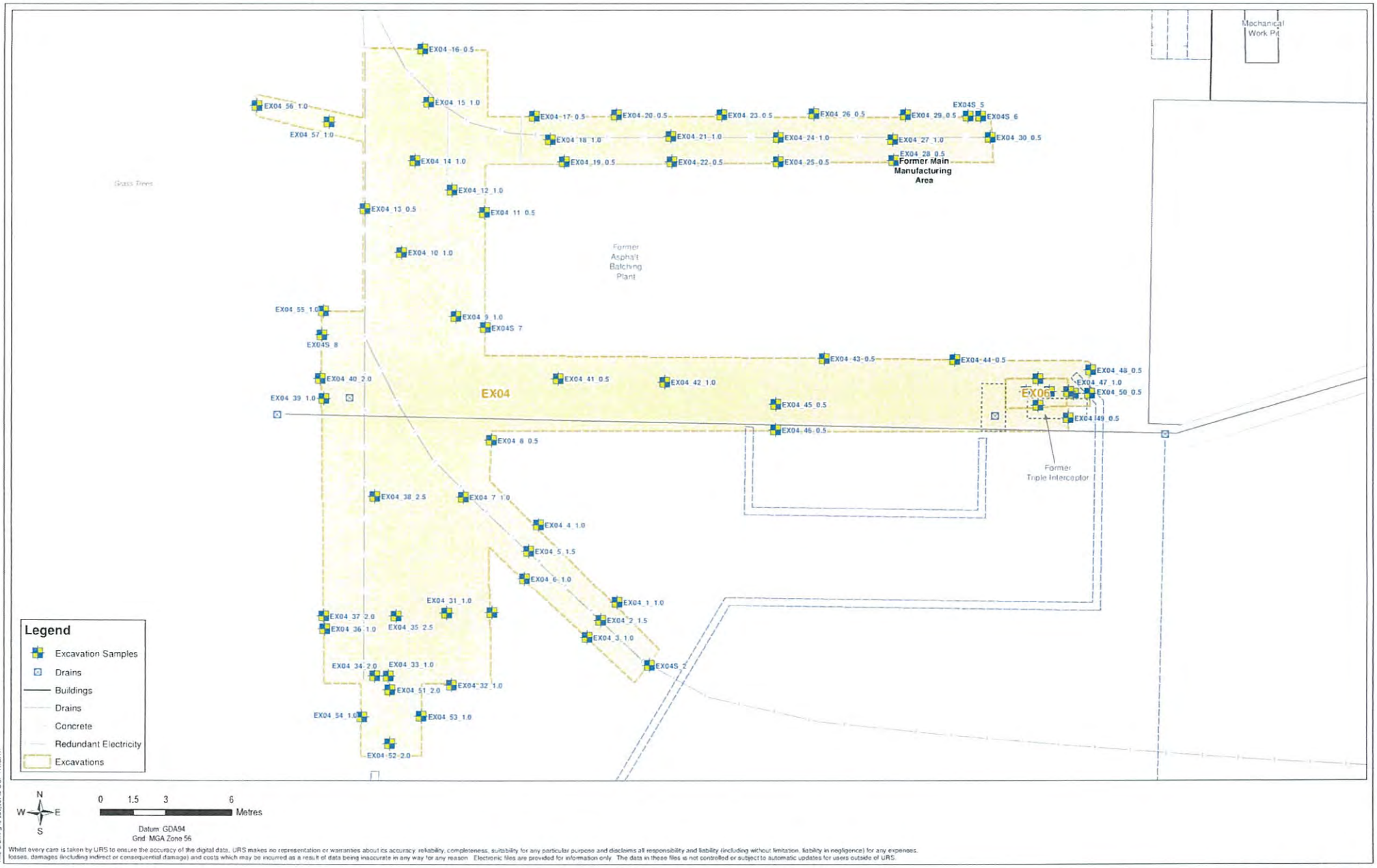
URS

24 DAVIS ROAD, WETHERILL PARK, NSW

File No: 42424443.016_.mxd Drawn: STB/SB/SS Approved: SH Date: 18/04/2013

Figure: 4C

Rev. A A3



MOBIL OIL AUSTRALIA

WETHERILL PARK SOIL VALIDATION REPORT,
FORMER WETHERILL PARK EMOLEUM DEPOT

EXCAVATIONS 04
FORMER MANUFACTURING AREA

URS

24 DAVIS ROAD, WETHERILL PARK, NSW

File No: 42424443.017.mxd Drawn: STB Approved: SH Date: 18.04.2013

Figure: **4D**

Rev. A A3

MOBIL OIL AUSTRALIA

WETHERILL PARK SOIL VALIDATION REPORT, FORMER WETHERILL PARK EMOLEUM DEPOT

EXCAVATIONS 06 & 07
FORMER MANUFACTURING AREA

URS

24 DAVIS ROAD, WETHERILL PARK, NSW

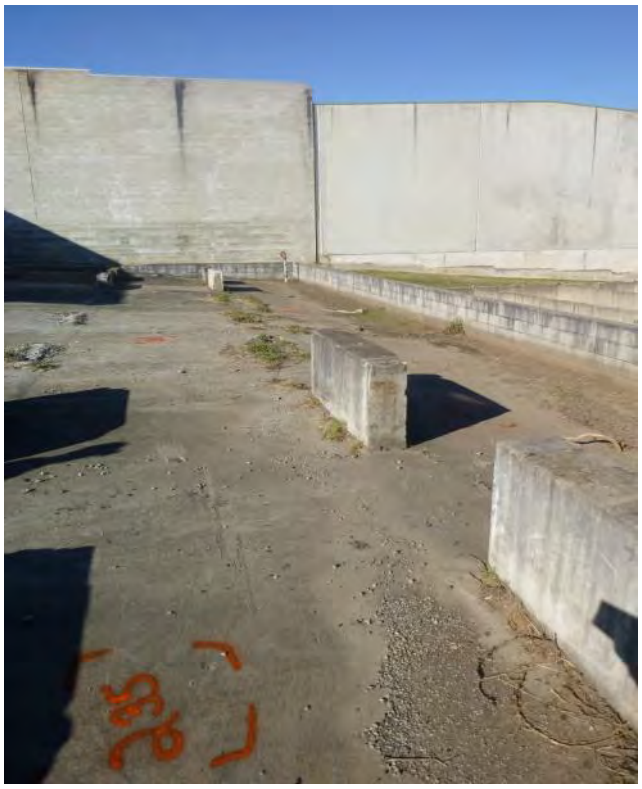
File No: 42424443.018_.mxd Drawn: STB/SB/SS Approved: SH Date: 18/04/2013

Figure: **4E**

Rev. A A3

Appendix B

Site Photographs



Photograph 1 - Remnant concrete stands for ASTs

Photograph 2 - Damaged and stained walls and floor in laboratory building

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Proposed Resource Recovery & Recycling Centre** **24 Davis Road, Wetherill Park**	PROJECT: 85126.03 PLATE No: 1 REV: -
	CLIENT: Bettergrow Pty Ltd	DATE: 14-Jul-17

Photograph 3 - Cluster of fibre cement fragments

Photograph 2 - Damaged and stained walls and floor in laboratory building

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Proposed Resource Recovery & Recycling Centre** **24 Davis Road, Wetherill Park**	PROJECT: 85126.03 PLATE No: 2 REV: -
	CLIENT: Bettergrow Pty Ltd	DATE: 14-Jul-17

Appendix C

PID Calibration Certificate

ThermoFisher SCIENTIFIC

The world leader in serving science

RENTALS

Equipment Report - MiniRAE 3000 PID

This Gas Meter has been performance checked and calibrated as follows:

Lamp	Compound	Concentration	Zero	Span	Traceability Lot #	Pass?
10.6 eV	Isobutylene	100 ppm	0 ppm	100 ppm	38926 Cyl3	☑

Alarm Limits

High	100 ppm
Low	50 ppm

Bump Test

Date	Target Gas	Reading	Pass?
03/07/16	100 ppm	100 ppm	☑

☑ Battery Status 100%
☑ 10 minutes test complete
☑ Spare battery status (Min 5.5 volts)
☑ Electrical Safety Tag attached (AS/NZS 3760)

☑ Performance check (pump, lamp, sensor)
☑ Data cleared
☐ Filters checked

Tag No: 001458

Valid to: 03/07/17

Date: 03/07/17

Signed: JA.

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $30 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	MiniRAE 2000 PID / Operational Check / Battery Status 100%
☑	☐	Lamp 10.6 eV, Compound Set to: Isobutylene C/factor: 1.0
☑	☐	Protective yellow rubber boot
☑	☐	Inlet probe (attached to PID)
☑	☐	Spare water trap filter(s) Qty 1
☑	☐	Charger 240V to 12V1250mA
☑	☐	Cradle and Travel Charger
☑	☐	Instruction Manual behind foam on the lid of case "
☑	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	Spare Alkaline Battery Compartment with batteries
☑	☐	Inline Moisture trap Filter Guide Laminated
☐	☐	Calibration regulator & tubing (optional)
☐	☐	Data cable and Software CD (optional)
☑	☐	Carry Case
☑	☐	Check to confirm electrical safety (tag must be valid)

Date: 03/07/17

Signed: JA.

TFS Reference	CS007077	Return Date:	/ /
Customer Reference		Return Time:	
Equipment ID	PID3000-47	Condition on return:	
Equipment Serial No.	592-916960		

"We do more than give you great equipment… We give you great solutions!"

Appendix D

QA/QC Report

QA/QC Report

Q1. Data Quality Objectives

The Targeted Site Investigation was devised broadly in accordance with the seven step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999 as amended 2013 (NEPC 2013). The DQO process is outlined as follows:

(1) State the Problem

The site is located in a primarily industrial area at Wetherill Park and was previously used for the production of asphalt. It was stated in URS (2013c) that URS did not encounter any soil conditions during remediation that would preclude the continued use of the site for commercial/industrial use, however, it was not concluded that the site is suitable for commercial/industrial use. Data gaps were identified in DP (2015) as well as in the SAQP (DP, 2017b) which should be investigated in order to complete an assessment of the suitability of the site for the proposed development.

The "problem" that was to be addressed is that additional information was required with regards to potential soil contamination in order to complete the assessment of the site's suitability for the proposed Resource Recovery and Recycling Centre.

The Douglas Partners (DP) project team included David Walker (Project Manager / Environmental Engineer), Thomas Graham (Environmental Scientist), Jack Snowden (Occupational Hygienist/ Environmental Scientist), and Paul Gorman (Project Reviewer).

(2) Identify the Decision

According to URS (2006), chemicals potentially associated with the historical site use of asphalt manufacturing include:

- PAH associated with the storage and handling of bitumen;
- TPH, BTEX, and PAH associated with the storage and handling of bitumen emulsifiers including diesel and possibly previously kerosene;
- TPH and BTEX associated with the former storage and handling of petroleum fuels and possibly kerosene in USTs;
- TPH, BTEX and PAH associated with wastewater collected in two or three triple/oil interceptor traps/pits;
- TPH and PAH associated with stockpiling of asphalt outside on unpaved, uncovered areas (e.g. behind the laboratory), although TPH and PAH contained in asphalt are relatively immobile; and
- OCP and OPP associated with potential vegetation control.

In addition, PCB was noted as a possible contaminant associated with electrical substations (transformers). Asbestos was identified as being present in building structures. Metals were also assessed as potential contaminants. VOC may be associated with solvents and chemicals stored at the site (e.g. in the metals store room).

Given the remediation works documented by URS, the detailed nature of previous soil and groundwater investigations, it was considered (by DP) that the likelihood of widespread contamination existing at the site was very low. Given this, a limited/targeted soil investigation (instead of a detailed investigation of soil and groundwater) to address data gaps was determined (by DP) to be appropriate to complete an assessment of the site for its suitability for the proposed development.

The soil analytical data is compared to the (Tier 1) health and ecological investigation and screening levels as well as Management Limits for a commercial/industrial land use (Land-use category D) sourced from NEPC (2013). The suitability of the site for a commercial/industrial land-use is based on a comparison of the analytical results to the adopted site assessment criteria and, if necessary, compared to the 95% UCL of the mean concentrations for soil.

The following specific decisions were to be made, as appropriate, for this investigation:

- What is the conceptual site model (i.e. sources, receptors, migration pathways, exposure)?
- Do the existing fill materials and/or natural soils pose a potential risk to identified receptors (including groundwater)?
- Is the data sufficient to make a decision regarding the abovementioned risks, the compatibility of the site for the proposed development, or are additional investigations required?
- Does contamination at the site, if encountered, trigger the Duty to Report requirements under the CLM Act 1997?
- Are there any off-site migration issues that need to be considered?
- Is the data sufficient to enable the preparation of a Remediation Action Plan (RAP) and/or Environmental Management Plan (EMP) should the data suggest these are required?

(3) Identify the Information Inputs

Inputs into the decisions are as follows:

- A review of results and findings from previous investigations (including the identification of data gaps);
- Ground-penetrating Radar (GPR) survey;
- Geology, topography and hydrogeology;
- Soil samples collected for analysis;
- The stratigraphy of the site as described in the borehole logs;
- If site conditions suggest additional contaminants of concern i.e. subsurface conditions or material encountered during test bores (odours, staining etc.), further analysis will be undertaken;
- Field and laboratory QA/QC data to assess the suitability of the environmental data for the assessment;
- All analytical results (with analysis undertaken at NATA accredited laboratories); and
- The results are compared with the NEPC (2013) criteria.

(4) Define the Study Boundaries

The study boundary is the site identified as Lot 18 Deposited Plan 249417. The site is a rectangular shape covering approximately 20,280 m^2.

(5) Develop the Analytical Approach (or Decision Rule)

The information obtained during the investigation is used to address data gaps in order to provide site characterisation (when reviewing results from previous investigation and validation reports). The decision rules used in characterising the site are as follows:

- Laboratory test results are assessed individually as an initial screen and statistically, if considered appropriate, to determine the 95% upper confidence level (UCL) of the mean concentration for each analyte or analyte group (of like materials);
- The adopted site criteria were the NSW EPA endorsed criteria;
- Where such criteria are not available, other recognised national or international standards were used;
- Further investigation, remediation and/or management will be recommended if the adopted criteria are exceeded.

Field and laboratory test results will be considered useable for the assessment after evaluation against the following data quality indicators (DQIs):

- Precision – a measure of variability or reproducibility of data;
- Accuracy – a measure of closeness of the data to the 'true' value;
- Representativeness – the confidence (qualitative) of data representativeness of media present on site;
- Completeness – a measure of the amount of usable data from a data collection activity; and
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event.

(6) Specify the Performance or Acceptable Criteria

Considering that the proposed development will comprise a commercial/industrial land-use, decision errors for the respective contaminants for filling/soil are:

1. Deciding that the media on site exceeds the assessment criteria when they truly do not; and
2. Deciding that the media on site are within the assessment criteria when they are truly not.

Decision errors for the proposed assessment were minimised and measured by the following:

- The soil sampling regime targets each stratum identified to account for site variability and where signs of contamination are identified. A total of 45 test bores were positioned to address the data gaps;
- Sample collection and handling techniques are in accordance with DP's *Field Procedures Manual* and SAQP;

- Samples are prepared and analysed by NATA-accredited laboratories with the acceptance limits for laboratory QA/QC parameters based on the laboratory reported acceptance limits and those stated in NEPC (2013). Where NATA endorsed methods are not used, the reasons are stated. The effect of using non-NATA methods on the decision making process are explained;
- The analyte selection is based on the available site history, past site activities, site features, field observations and the findings of the previous investigations;
- The assessment criteria were adopted from NSW EPA endorsed guidelines including NEPC (2013) which have risk probabilities already incorporated; and
- A significance level of 0.05 were adopted for laboratory data with statistical analysis of 95% Upper Confidence Limit (95% UCL) of average concentrations and standard deviation of less than 50%, where required.

(7) Optimise the design for obtaining data

Sampling design and procedures that were implemented to optimise data collection for achieving the DQOs include the following:

- Only NATA accredited laboratories using NATA endorsed methods were used to perform laboratory analysis whenever possible;
- To optimise the selection of soil samples for chemical analysis, all samples collected were screened using a calibrated photo-ionisation detector (PID) allowing for site assessment and sample selection. Additional soil samples were collected but kept 'on hold' pending details of initial analysis and will be analysed if further delineation is required;
- Suitably qualified engineers and/or scientists were chosen to conduct field work and sample analysis interpretation; and
- A SAQP has been prepared.

Q2. Data Quality Indicators

The reliability of field procedures and analytical results were assessed against data quality indicators (DQIs). The DQIs are assessed as outlined in Table Q1.

Table Q1: Data Quality Indicators

DQI	Considerations as specified in NEPC (2013) Schedule B2	Comment
Completeness		
Field Considerations	All critical locations sampled.	All critical locations sampled in accordance with the SAQP.
	All samples collected.	Targeted/limited soil sampling has been used to provide coverage of the site in accordance with the SAQP.
	Standard operating practices (SOPs) appropriate and complied with	Field staff followed SOPs as defined in the DP *Field Procedures Manual* and SAQP.
	Experienced samplers	DP environmental engineer David Walker, with over 8 years experience led the field team of environmental scientists.
	Documentation correct	DP staff completed chain of custody in accordance with the *DP Field Procedures Manual* and SAQP. Documentation reviewed and signed off by project reviewer.
Laboratory Considerations	All critical samples analysed according to the SAQP.	The SAQP was followed with any variation to the SAQP recorded in the report.
	All analytes analysed according to SAQP	All analytes analysed according to the SAQP. Any variation has been recorded in the report.
	Appropriate methods and PQLs/LOR	NATA approved methods were adopted by the selected analytical laboratories. Any non-NATA methods have been recorded and discussed. Limits of reporting (LORs) and practical quantitation limits (PQLs) in accordance with the method have been used by the contract laboratories.
	Sample Documentation complete	Chain-of-custody (CoC) maintained and appended to the Certificates of Analysis(s). All Certificates of Analysis are complete and provided as Appendices.
	Sample holding times complied with	All samples were analysed within the holding times.
Comparability		
Field Considerations	Same SOPs used on each occasion	Field staff followed the same SOPs for each day of sampling as defined in the DP *Field Procedures Manual* and SAQP.
	Climatic conditions	Field staff noted weather considered that could potentially impact the comparability of field results.
	Same types of samples	Field staff followed SOPs as defined in the DP *Field*

DQI	Considerations as specified in NEPC (2013) Schedule B2	Comment
	collected	*Procedures Manual* and SAQP.
Laboratory Considerations	Sample analytical methods used	Laboratories used are accredited by NATA for the analyses undertaken except for trace analysis for asbestos. The implications of non-NATA analysis is discussed. Laboratory methods are as stated on the Certificates of Analysis.
	Sample PQLs / LORs	PQL or LOR set by the laboratories are generally below the adopted assessment criteria. Any differences in PQLs between laboratories are negated by the PQLs being generally significantly lower than the assessment criteria.
	Same laboratories	Envirolab Services Pty Ltd (ELS) was used for primary sample analysis. Eurofins mgt was used for inter-laboratory replicate sample analysis.
	Same units	All laboratory results are expressed in consistent units for each media/ analyte type.
Representativeness		
Field Considerations	Appropriate media sampled according to SAQP	Appropriate media were sampled in accordance with the SAQP.
	All media identified in SAQP sampled	All media identified as requiring investigation in the SAQP were sampled.
Laboratory Considerations	All samples analysed according to SAQP.	All samples were analysed according to SAQP, and as stipulated in the COC.
Precision		
Field Considerations	SOPs appropriate and complied with	Field staff followed SOPs as defined in the DP *Field Procedures Manual* and SAQP.
Laboratory Considerations	Analysis of laboratory replicates	The majority of replicate results were within the laboratory acceptance standards. The relevance of those outside the standards is discussed in Section Q4.
	Field replicates	The analysis included a minimum of 10% replicates prepared in the field. The majority of RPDs were within acceptable limits, as discussed in Section Q3. The relevance of those outside the limits is discussed in the same section.
	Laboratory prepared volatile trip spikes	Trip spike samples were utilised and within the acceptable recovery as discussed in Section Q4.
Accuracy (bias)		
Field Considerations	SOPs appropriate and complied with	Field staff to follow SOPs as defined in the DP *Field Procedures Manual* and SAQP.
Laboratory Considerations	Analysis of field blanks	Trip blank samples were utilised and results were <PQL as discussed in Section Q4.
	Analysis of rinsate blanks	Rinsate samples were collected for each day a stainless steel equipment was used. Analysis revealed that the equipment was adequately decontaminated as discussed in Section Q3.

DQI	Considerations as specified in NEPC (2013) Schedule B2	Comment
	Analysis of reagent blanks	Refer to Section Q4. The reagent blank samples were within laboratory acceptance standards.
	Analysis of matrix spikes	Refer to Section Q4. The matrix spike samples were generally within laboratory acceptance standards as discussed in Section Q4.
	Analysis of surrogate spikes	Refer to Section Q4. The surrogate spike samples were generally within laboratory acceptance standards.
	Analysis of laboratory control samples	Refer to Section Q4. The LCS were within laboratory acceptance standards.

Q3. FIELD RATIONALE AND QUALITY ASSURANCE AND QUALITY CONTROL

Q3.1 Sampling Team and Weather Conditions

Field sampling was undertaken by David Walker (Environmental Engineer), Thomas Graham (Environmental Scientist) and Jack Snowden (Occupational Hygeniest/Environmental Scientist). All members of the team were instructed by the Project Manager regarding the sampling process. The same approach to the sampling was applied by each team member, minimising the potential for field sampling related variations in test outcomes.

Sampling was undertaken during cool to mild, mostly sunny weather conditions on 4 and 5 July 2017.

Q3.2 Soil Sample Collection

For Bores 203, 205 to 207, 210, and 213 to 244 soil samples were collected using a Geoprobe 7782DT drilling rig with Push Tube attachment and disposable PVC liners. At some of these locations, additional sample of surface soil (or soil immediately beneath a concrete slab) was collected using disposal gloves. For Bores 201 and 202, samples were collected using a hand auger instead of the drilling rig to avoid possible damage to the area of ecological significance at the south of the site. Test bores 204, 208, 209, 211, 212 and 245 were drilled using a hand auger given that these sample locations were inaccessible to the drilling rig.

All sampling data was recorded on DP chain-of-custody sheets. The general sampling procedure adopted for the collection of soil samples for chemical analysis was:

- Collect soil samples from the (cut open) PVC liner or hand auger returns;
- Transfer samples into laboratory-prepared glass jars, completely filled (when sufficient sample was recovered) to minimise the headspace within the sample jar, and capping immediately to minimise loss of volatiles;
- Label sample containers with individual and unique identification, including project number, sample location and sample depth; and
- Place the glass jars, with Teflon lined lids, into a cooled, insulated and sealed container for transport to the laboratory.

A minimum of 10% replicates were collected in jars during sampling for QA/QC purpose. Replicate samples were also collected in zip-lock bags for volatile screening using a PID.

Q3.3 Field Logs and Chain of Custody

Logs for each soil sampling location were recorded in the field. The individual samples were recorded on the field logs along with the sample identity, location, depth, initials of sampler, replicate locations, replicate type and site observations.

Analysis to be performed on each sample was recorded on the COCs.

Q3.4 Decontamination

On 4 July 2017, soil samples were collected from push tubes (and surface soils or soils immediately beneath concrete slabs) using disposable nitrile gloves, thereby, avoiding the need to decontaminate sampling equipment.

On 5 July 2017, some of the soil samples were collected from push tubes with a stainless steel tool (to aid in breaking up the soil for placement into jars). When the stainless steel tool was used for sampling, the equipment was decontaminated between uses. A hand auger was also used for soil sampling on 5 July 2017 and was decontaminated between sample locations.

The decontamination procedure involved a three stage wash. The equipment was first rinsed with tap water to remove sediment followed by a 3% Decon 90 solution. Finally the equipment was rinsed in demineralised water and dried using disposable paper towel. A rinsate sample was collected on 5 July 2017 to confirm adequate decontamination of sampling equipment. Rinsate sample results, provided in the laboratory certificate 170847 are provided summarised in Table Q2.

Table Q2: Rinsate Results

Analyte	Rinsate Sample: R1 (µg/L)
Chloroform	39
Bromodichloromethane	29
Dibromochloromethane	13
Bromoform	1
VOC other than above	<PQL
TRH C_6 - C_{10}	63
BTEX & Naphthalene	<PQL
TRH >C_{10} - C_{16}	<50
TRH >C_{16} - C_{34}	<100
TRH >C_{34} - C_{40}	<100
PAH	<PQL
OCP	<PQL
PCB	<PQL
Arsenic	<1
Cadmium	<0.1
Chromium	<1
Copper	1
Lead	<1
Mercury	<1
Nickel	<1
Zinc	2
Total phenolics	<50

Note: PQL – practical quantitation limit

Chloroform, bromodichloromethane, dibromochloromethane and bromoform are found in water subject to chlorination (such as drinking water). These detected chemicals in the rinsate sample are likely to be sourced from the demineralised water which was probably originally tap water (prior to demineralisation) containing these chemicals. These chemicals were not detected in soil samples, so the presence of these chemicals in the rinsate sample is of no significance to the obtained soil analytical data.

The detected TRH C_6 - C_{10} in the rinsate sample correlates to the detected chloroform, bromodichloromethane, dibromochloromethane and bromoform. TRH C_6 - C_{10} was not detected in soil samples, so the presence of TRH C_6 - C_{10} in the rinsate sample is of no significance to the obtained soil analytical data.

Copper and zinc were detected at very low concentrations (i.e. at concentrations significantly lower than what is commonly encountered in Sydney tap water). Zinc and copper may not have been

completely removed (i.e. to less than 1 µg/L) from the demineralised water during the demineralisation process. Given that the concentrations of copper and zinc are so low and other contaminants (including PAH, TRH >C_{10} – C_{40}, arsenic, cadmium, chromium, lead, mercury and nickel) were not detected in the rinsate sample, the obtained soil analytical results are considered to not have been impacted from possible cross-contamination from reusable sampling equipment.

Q3.5 Chain of Custody

Chain of custody information was recorded on the Chain-of-Custody (COC) sheets which accompanied samples to the analytical laboratory. Signed copies of COCs are presented in the report appendices, along with the laboratory certificates of analysis.

Q3.6 Analytical Rationale

The analytical rationale was designed around the potential contaminants discussed in the SAQP and field observations.

Q3.7 Field Replicates

Replicate samples were collected in the field as a measure of accuracy, precision and repeatability of the results.

Field replicate samples for soil were collected from the same location and an identical depth to the primary sample. Equal portions of the subject material were placed into the primary and replicate sampling jars and sealed. The sample was not homogenised so as to minimise the loss of volatiles. Replicate samples were labelled with a DP identification number, recorded on DP's logs, so as to conceal their relationship to their primary sample from the analytical laboratory.

A measure of the consistency of results is derived by the calculation of relative percentage differences (RPDs) for replicate samples. A RPD of 30% is generally considered acceptable for inorganic analytes by the industry, although in general a wider RPD range (50%) may be acceptable for organic analytes. RPDs have only been considered where a concentration is greater than five times the PQL.

Q3.7.1 Intra-Laboratory Analysis

Intra-laboratory replicates were analysed as an internal check of the reproducibility within the primary laboratory (Envirolab Services Pty Ltd) and as a measure of consistency of sampling techniques.

A total of 69 primary soil samples were analysed to four intra-laboratory soil samples (6%). Therefore the 5% intra-laboratory replicate sampling requirement was met.

The comparative results of analysis between original and replicate samples are summarised in Tables Q3 to Q6.

Table Q3: Intra-laboratory Replicate Results for Samples from Bore 201, Depth 0-0.1 m

Analyte	Primary Sample [201 / 0-0.1m] Concentration (mg/kg)	Replicate Sample [BDA-050717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	<4	<4	0	0
Cadmium	<0.4	<0.4	0	0
Chromium	15	13	2	14
Copper	23	25	2	8
Lead	35	39	4	11
Mercury	<0.1	<0.1	0	0
Nickel	11	9	2	20
Zinc	63	70	7	11
All PAH	<PQL	<PQL	0	0
TRH (C_6-C_{40})	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0
All OCP	<PQL	<PQL	0	0

Table Q4: Intra-laboratory Replicate Results for Samples from Bore 212, Depth 0-0.1 m

Analyte	Primary Sample [212 / 0-0.1m] Concentration (mg/kg)	Replicate Sample [BDC-050717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	5	4	1	22
Cadmium	<0.4	<0.4	0	0
Chromium	16	17	1	6
Copper	30	30	0	0
Lead	20	20	0	0
Mercury	<0.1	<0.1	0	0
Nickel	27	29	2	7
Zinc	61	45	16	30
All PAH	<PQL	<PQL	0	0
TRH (C_6-C_{40})	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0
All OCP	<PQL	<PQL	0	0
All PCB	<PQL	<PQL	0	0

Table Q5: Intra-laboratory Replicate Results for Samples from Bore 218, Depth 0.2-0.5 m

Analyte	Primary Sample [218 / 0.2-0.5 m] Concentration (mg/kg)	Replicate Sample [BDB-040717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	5	<4	1	22
Cadmium	<0.4	<0.4	0	0
Chromium	30	4	26	**152**
Copper	120	19	101	**145**
Lead	10	11	1	10
Mercury	<0.1	<0.1	0	0
Nickel	17	5	14	**127**
Zinc	40	18	22	**76**
Phenanthrene	0.1	<0.1	0	0
Fluoranthene	0.2	<0.1	0.1	67
Pyrene	0.3	<0.1	0.2	100
Benzo(a)anthracene	0.1	<0.1	0	0
Chrysene	0.1	<0.1	0	0
Benzo(b,j+k)fluoranthene	0.3	<0.2	0.1	40
Benzo(a)pyrene	0.2	0.09	0.11	76
Benzo(g,h,i)perylene	0.1	<0.1	0	0
Other PAH	<PQL	<PQL	0	0
TRH C_6-C_{10}	<25	<25	0	0
TRH >C_{10}-C_{16}	68	<50	18	31
TRH >C_{16}-C_{34}	390	<100	290	118
TRH >C_{34}-C_{40}	920	<100	820	**161**
BTEX	<PQL	<PQL	0	0
All OCP	<PQL	<PQL	0	0
All PCB	<PQL	<PQL	0	0
Asbestos (~40 g)	No asbestos detected	No asbestos detected	-	-

Table Q6: Intra-laboratory Replicate Results for Samples from Bore 230, Depth 0.1-0.4 m

Analyte	Primary Sample [230 / 0.1-0.4 m] Concentration (mg/kg)	Replicate Sample [BD10-050717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	<4	<4	0	0
Cadmium	<0.4	<0.4	0	0
Chromium	21	19	2	10
Copper	34	34	0	0
Lead	17	15	2	13
Mercury	<0.1	<0.1	0	0
Nickel	20	15	5	29
Zinc	62	51	11	19
All PAH	<PQL	<PQL	0	0
TRH (C6-C40)	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0

The intra-laboratory RPD results were within the acceptable range except for RPD results for chromium, copper, nickel, zinc and TRH >C_{34}-C_{40} for the replicate pair from Bore 218, depth 0.2-0.5 m (as shown in bold). The RPD results outside the acceptable range are not considered to be significant because:

- The samples from Bore 218, depth 0.2-0.5 m, were from filling which is non-homogeneous in nature;
- Replicates, rather than homogenised duplicates, were used to avoid volatile loss, hence variability can be expected; and
- The majority of the recorded RPDs are within the acceptable limits.

It is noted that concentrations of fluoranthene, pyrene, benzo(a)pyrene and TRH >C_{16}-C_{34} in the sample from Bore 218, depth 0.2-0.5 m, were less than five times the PQL and, therefore, the respective RPDs have not been considered (as unacceptable).

It is noted that asbestos analysis (on 500 mL samples) was not undertaken for samples BDA-050717 and BDC-050717 due to an insufficient sample volume being collected. As asbestos is not a chemical contaminant, the nature of sample splitting can result in the presence of asbestos in only one of the replicate pair of samples resulting in an inconclusive QA/QC assessment of replicate pairs in relation to asbestos analysis and, therefore, the absence of asbestos analysis on samples BDA-050717 and BDC-050717 is considered to not have impacted on the overall QA/QC assessment or the reliability of data for the investigation.

Overall, the intra-laboratory comparisons indicate that the sampling technique was consistent and repeatable and therefore the results are useable and representative of the conditions encountered.

Q3.7.2 Inter-Laboratory Analysis

Inter-laboratory replicates were conducted as a check of the reproducibility of results between the primary laboratory (Envirolab Services Pty Ltd) and the secondary laboratory (Eurofins mgt) and as a measure of consistency of sampling techniques.

A total of 69 primary soil samples were analysed to 4 inter-laboratory soil samples (6%). Therefore the 5% inter-laboratory replicate sampling requirement was met.

The comparative results of analysis between original and inter-laboratory replicate samples are summarised in Tables Q7 and Q10.

Table Q7: Inter-laboratory Replicate Results for Samples from Bore 210, Depth 0.16-0.24 m

Analyte	Primary Sample [210 / 0.16-0.24 m] Concentration (mg/kg)	Replicate Sample [BDC-040717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	<4	4	0	0
Cadmium	<0.4	<0.4	0	0
Chromium	58	66	8	13
Copper	50	48	2	4
Lead	8	7.1	0.9	12
Mercury	<0.1	<0.1	0	0
Nickel	74	79	5	7
Zinc	60	59	1	2
Naphthalene	0.1	< 0.5	0	0
Phenanthrene	0.2	<0.5	0	0
All other PAH	<PQL	<PQL	0	0
TRH (C_6-C_{40})	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0
VOC	<PQL	<PQL	0	0

Table Q8: Inter-laboratory Replicate Results for Samples from Bore 224, Depth 0.4-0.6 m

Analyte	Primary Sample [224 / 0.4-0.6 m] Concentration (mg/kg)	Replicate Sample [BD4-040717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
PCB	<PQL	<PQL	0	0

Table Q9: Inter-laboratory Replicate Results for Samples from Bore 233, Depth 0.1-0.3 m

Analyte	Primary Sample [233 / 0.1-0.3 m] Concentration (mg/kg)	Replicate Sample [BD9/050717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	<4	<2	0	0
Cadmium	<0.4	<0.4	0	0
Chromium	22	21	1	5
Copper	31	32	1	3
Lead	15	14	1	7
Mercury	<0.1	<0.1	0	0
Nickel	29	28	1	4
Zinc	52	73	21	**34**
All PAH	<PQL	<PQL	0	0
TRH (C_6-C_{40})	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0

Table Q10: Inter-laboratory Replicate Results for Samples from Bore 235, Depth 0.5-0.7 m

Analyte	Primary Sample [235 / 0.5-0.7 m] Concentration (mg/kg)	Replicate Sample [BD8/050717] Concentration (mg/kg)	Difference (mg/kg)	RPD (%)
Arsenic	<4	3.8	0	0
Cadmium	<0.4	<0.4	0	0
Chromium	14	17	3	19
Copper	30	31	1	3
Lead	12	14	2	15
Mercury	<0.1	<0.1	0	0
Nickel	24	28	4	15
Zinc	59	72	13	20
All PAH	<PQL	<PQL	0	0
TRH (C_6-C_{40})	<PQL	<PQL	0	0
BTEX	<PQL	<PQL	0	0

The calculated RPD values were within the acceptable range except for zinc in the replicate pair of samples from Bore 233, depth 0.1-0.3 m, as shown in bold. However, this RPD result for zinc is not considered to be significant because:

- The samples from Bore 233, depth 0.1-0.3 m, were from filling which by its nature is non-homogeneous;

- Replicates, rather than homogenised replicates were used to avoid volatile loss, hence variability can be expected; and
- The majority of RPDs are within the acceptable limits.

It is noted that asbestos analysis (on 500 mL samples) was not undertaken for samples BDC-040717 and BD9/050717 due to an insufficient sample volume being collected. As asbestos is not a chemical contaminant, the nature of sample splitting can result in the presence of asbestos in only one of the replicate pair of samples resulting in an inconclusive QA/QC assessment of replicate pairs in relation to asbestos analysis and, therefore, the absence of asbestos analysis on samples BDC-040717 and BD9/050717 is considered to not have impacted on the overall QA/QC assessment or the reliability of data for the investigation.

The overall inter-laboratory comparisons indicate that the sampling technique was consistent and repeatable and therefore the results are useable and representative of the conditions encountered.

Q3.8 Trip Blanks

Laboratory prepared soil trip blanks were taken out to the field unopened on each day of sampling, subjected to the same preservation methods as the field samples, then analysed for the purposes of determining whether transfer of contaminants into the blank sample had occurred prior to reaching the laboratory. If this is confirmed then there is also a potential for other samples in the batch to have been impacted. The result of the laboratory analysis for the trip blanks is shown in Table Q11.

Table Q11: Trip Blank Results (mg/kg)

Sample ID	Benzene	Toluene	Ethylbenzene	M + P Xylene	O Xylene
TB1 - 4/7/2017	<0.2	<0.5	<1	<2	<1
TB1 - 5/7/2017	<0.2	<0.5	<1	<2	<1

Levels of analytes were all below detection limits indicating that the potential that significant cross contamination had not occurred during the course of the round trip from the site to the laboratory.

Q3.9 Trip Spikes

In accordance with the *NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (2011)*, laboratory prepared trip spike results for volatile analytes are included in this report. The purpose of a trip spike is to assess the potential loss of volatile analytes that may have occurred between the time of collection and transfer of the sample to the laboratory. For the current investigation, a trip spike was taken into the field on each day of sampling with BTEX being the volatile assessed.

For soils, laboratory preparation of the trip spike involved putting 1mL of BTEX (using a 1500ppm BTEX trip spike standard) into two jars which are cross referenced and labelled ‘TS’ and ‘control’. The trip spike was taken onto site and subject to the same jar storage and transfer as the field samples. The control stayed refrigerated in the laboratory. Following receipt of the trip spike and field samples,

the trip spike and corresponding control are both analysed with results of the trip spike being expressed as the % difference from the control sample.

The acceptance limit for trip spikes is 60-140% in difference compared to the control or standard. The results of the laboratory analysis for the trip spikes are shown in Table Q12.

Table Q12: Trip Spike Results (% Recovery)

Sample ID	Benzene	Toluene	Ethylbenzene	M + P Xylene	O Xylene
TS1 - 4/7/2017	91	90	91	90	91
TS1 - 5/7/2017	114	112	112	113	112

Results indicate that the percentage loss for BTEX during the trip was minimal and therefore appropriate preservation techniques were employed.

Q3.10 Field Instrument Calibration

The photoionisation detector (PID) was calibrated by Thermo Fisher Scientific prior to use. The equipment report (calibration certificate) is provided in the Appendices.

Q4. LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL

Q4.1 Analytical Laboratories

Samples were submitted to the following laboratories for analysis:

- Primary Laboratory: Envirolab Services Pty Ltd (ELS); and
- Secondary Laboratory: Eurofins mgt.

The laboratories are both NATA accredited for the analysis undertaken except for analysis of 500 mL samples for trace concentrations of asbestos (at Envirolab Services Pty Ltd). As noted by Envirolab Services, the analysis of 500 mL samples for asbestos was consistent with the reporting recommendations in NEPC (2013).

Q4.2 Holding Times

A review of the laboratory certificates of analysis and chain-of-custody documentation indicated that holding times were met except for VOC in sample BDC-040717, as summarised in Table Q13.

Table Q13: Holding Times for Soils

Analyte	Recommended maximum holding time	Holding time met
Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn	6 months	Yes
TRH	14 days	Yes
BTEX	14 days	Yes
VOC	7 or 14 days	Yes, except for sample BDC-040717
Phenols	14 days	Yes
PAH	14 days	Yes
PCB	28 days	Yes
phenols	14 days	Yes
pH	7 days	Yes
CEC	28 days	Yes

Sample BDC-040717 was analysed (only) one day outside Eurofin mgt's recommended hold time for VOC analysis (seven days). Given that the respective primary sample was analysed for VOC within the recommended holding time at Envirolab Services, the analysis of sample BDC-040717 slightly outside the recommended holding time is not of significance to the overall assessment.

Q4.3 Analytical Methods

The laboratory analytical methods are provided on the laboratory certificates of analysis and summarised in Table Q14 along with the limits of reporting (or PQL).

Table Q14: Soil Analytical Methods and Limits of Reporting

Analyte	Envirolab Services Limit of Reporting (mg/kg)	Envirolab Services Reference Method	Eurofins mgt Limit of Reporting (mg/kg)	Eurofins mgt Reference Method
Heavy Metals As, Cd, Cr, Cu, Pb, Ni, Zn	0.4-4	ICP-OES	0.4-5	LTM-MET-3040_R0 ICP-MS
Mercury (Hg)	0.1	Cold vapour AAS	0.1	LTM-MET-3040_R0 ICP-MS
TRH C_6-C_{10}	25	P&T; GC/MS	20	TRH C6-C40 - LTM-ORG-2010
TRH >C_{10}-C_{40}	50-100	GC/FID	50-100	TRH C6-C40 - LTM-ORG-2010
BTEX	0.5-2	P&T; GC-MS	0.1-0.2	TRH C6-C40 - LTM-ORG-2010
PCB	0.1	GC-ECD	0.1-0.5	LTM-ORG-2220
PAH	0.05-0.2	GC/MS	0.5	LTM-ORG-2140 GCMS
VOC	0.2-2	P&T;GC-MS	0.1-0.5	LTM-ORG-2150
OCP	0.1	GC	-	-
Asbestos ID	0.1g/kg	Polarised Light Microscopy and Dispersion Staining Technique	-	-
Coal Tar	-	RTA test method T542	-	-

Q4.4 Laboratory Replicate Results

Laboratory replicates are additional portions of a sample which are analysed in exactly the same manner as all other samples. Laboratory replicate samples are typically analysed at a rate of 1 for every 10 samples in a batch. Laboratory acceptance criteria for RPD vary between laboratories.

The laboratory QC for laboratory replicate results, were generally within the acceptance criteria for both laboratories. Any non-conformity with the acceptance criteria are discussed in Section Q4.9.

Q4.5 Laboratory Blank (Reagent Blank) Results

The laboratory blank, sometimes referred to as the method blank or reagent blank is the sample prepared and analysed at the beginning of every analytical run, following calibration of the analytical apparatus. This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc., it can be determined by processing solvents and reagents in exactly the same manner as for samples. Laboratory blanks are typically analysed at a frequency of 1 in 20, with a minimum of one per batch.

All results should be less than the method PQL or LOR. The report results for the method blanks were within the acceptance criteria for both laboratories.

Q4.6 Matrix Spike

The matrix spike is a sample replicate prepared by adding a known amount of analyte prior to analysis, and then treated exactly the same as all other samples. The recovery result indicates the proportion of the known concentration of the analyte that is detected during analysis.

The laboratory QC for matrix spikes were generally within the acceptance criteria for both laboratories. Any non-conformity with the acceptance criteria are discussed in Section Q4.9.

Q4.7 Surrogate Spike

The surrogate spike sample is prepared by adding a known amount of surrogate, which behaves similarly to the analyte, prior to analysis to each sample. The recovery result indicates the proportion of the known concentration of the surrogate that is detected during analysis.

The laboratory QC for surrogate spikes were generally within the acceptance criteria for both laboratories. Any non-conformity with the acceptance criteria are discussed in Section Q4.9.

Q4.8 Reference / Laboratory Control Sample (LCS)

This sample comprises spiking either a standard reference material or a control matrix (such as a blank of sand or water) with a known concentration of specific analytes. The LCS is then analysed and results compared against each other to determine how the laboratory has performed with regard to sample preparation and analytical procedure. LCSs are analysed at a frequency of 1 in 20, with a minimum of one analysed per batch.

The laboratory QC for LCSs were within the acceptance criteria for both laboratories.

Q4.9 Laboratory Comments

Comments are usually made on the laboratory certificates in relation to non-conformities with the laboratories' acceptance criteria. Non-conformities and laboratory comments are summarised in

Table Q15. Comments from DP with regards to the non-conformities and laboratory comments are also provided in Table 15.

Table Q15: Summary of Laboratory Comments (and Non-conformities)

Certificate of Analysis	Laboratory	Laboratory Comment	DP Comment
170847	Envirolab Services	The laboratory RPD acceptance criteria has been exceeded for sample 170847-21 for chromium and zinc. Therefore a triplicate result has been issued as laboratory sample number 170847-82.	The actual concentrations of chromium and zinc were of a similar order despite the elevated RPDs.
170847	Envirolab Services	The laboratory RPD acceptance criteria has been exceeded for 170847-45 for chromium and copper. Therefore a triplicate result has been issued as laboratory sample number 170847-83.	The sample was from filling which is non-homogeneous in nature. The actual concentrations of chromium and copper were of a similar order despite the elevated RPDs.
170847	Envirolab Services	Percent recovery (for some surrogate and spike samples for TRH) was not possible to report as the high concentration of analytes in the sample/s have caused interference.	
170847	Envirolab Services	For asbestos analysis, samples 170847-52 & 53 are below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013	Samples were below the minimum 500 mL sample volume due to insufficient sample volume able to be recovered in the field due to the adopted sample technique. Sample volumes were not excessively below the minimum.
170847	Envirolab Services	Samples 170847-24, 33, 34, 36, 40, 43, 44, 55, 56, 59, 64, 67, 73 were sub-sampled from jars provided by the client	Separate bags of soil for asbestos analysis were not provided due to the limited volume of sample recovered in the field for these samples.

Q5. QA/QC EVALUATION

An evaluation of field and laboratory QA/QC information against the stated DQOs has been undertaken. Overall, the majority of the SOPs have been complied with in the field, and the laboratory quality control samples were within the laboratory acceptance criteria. The QC non-conformances where they occurred, are not considered to have significantly impacted the quality of the results overall as they were minor in number compared to the overall QC data. On this basis, it is considered that an acceptable level of laboratory precision and consistency was achieved and that the laboratory data sets are reliable and useable for this assessment.

Appendix E

Laboratory Certificates,
Chain of Custody &
TRH Chromatograms

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 170847

Client:
Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	**85126.03, Resources Recovery & Recycling Facility**
No. of samples:	79 soils, 1 water, 1 material
Date samples received / completed instructions received	06/07/17 / 06/07/17

This report replaces R00 due to changes in sample information for ELS sample 27 and 74.
This report replaces R00 due to changes in sample information for ELS sample 37.

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	13/07/17 / 24/07/17
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

VOCs in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-8 206 0.2-0.5 4/07/2017 Soil	170847-10 207 0.4-0.6 4/07/2017 Soil	170847-11 208 0.18-0.28 5/07/2017 Soil	170847-13 209 0.2-0.3 5/07/2017 Soil	170847-15 210 0.16-0.24 4/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-8 206 0.2-0.5 4/07/2017 Soil	170847-10 207 0.4-0.6 4/07/2017 Soil	170847-11 208 0.18-0.28 5/07/2017 Soil	170847-13 209 0.2-0.3 5/07/2017 Soil	170847-15 210 0.16-0.24 4/07/2017 Soil
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	119	115	114	114	116
Surrogate aaa-Trifluorotoluene	%	106	99	98	98	98
Surrogate Toluene-d_8	%	106	91	95	96	96
Surrogate 4-Bromofluorobenzene	%	88	83	86	84	88

VOCs in soil				
Our Reference:	UNITS	170847-17	170847-46	170847-69
Your Reference	---------- -	211	229	245
Depth	----------	0.16-0.23	0.2-0.3	0.3-0.5
Date Sampled		5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1
chloroform	mg/kg	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1
bromoform	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
styrene	mg/kg	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1

VOCs in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-17 211 0.16-0.23 5/07/2017 Soil	170847-46 229 0.2-0.3 4/07/2017 Soil	170847-69 245 0.3-0.5 4/07/2017 Soil
1,2,3-trichloropropane	mg/kg	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1
Surrogate Dibromofluorometha	%	112	112	112
Surrogate aaa-Trifluorotoluene	%	98	90	94
Surrogate Toluene-d_8	%	93	87	94
Surrogate 4-Bromofluorobenzene	%	86	86	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-4	170847-5
Your Reference	---------- -	201	202	203	203	204
Depth	----------	0-0.1	0-0.05	0-0.2	2-2.2	0-0.15
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	109	90	89	84	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-6	170847-7	170847-8	170847-9	170847-10
Your Reference	---------- -	205	205	206	207	207
Depth	----------	0-0.1	2.2-2.4	0.2-0.5	0.14-0.17	0.4-0.6
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	11/07/2017	10/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	80	106	75	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-11	170847-12	170847-13	170847-14	170847-15
Your Reference	---------- -	208	208	209	209	210
Depth	----------	0.18-0.28	0.28-0.31	0.2-0.3	0.3-0.5	0.16-0.24
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	10/07/2017	11/07/2017	10/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	80	98	84	98

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-16	170847-17	170847-18	170847-20	170847-21
Your Reference	---------- -	210	211	212	213	213
Depth	----------	0.4-0.6	0.16-0.23	0-0.1	0.2-0.25	0.3-0.5
Date Sampled		4/07/2017	5/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	11/07/2017	10/07/2017	10/07/2017	10/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	85	98	86	80	92

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-22	170847-23	170847-24	170847-25	170847-26
Your Reference	---------- -	214	214	215	215	216
Depth	----------	0-0.2	0.2-0.3	0-0.2	0.5-0.8	0-0.2
Date Sampled		4/07/2017	4/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	87	93	86	86	101

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-27	170847-28	170847-29	170847-30	170847-31
Your Reference	---------- -	216	217	217	218	218
Depth	----------	0.4-0.6	0-0.25	0.25-0.5	0-0.1	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	108	87	98	101

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-32	170847-33	170847-34	170847-35	170847-36
Your Reference	---------- -	219	220	221	221	222
Depth	----------	0-0.2	0-0.2	0-0.1	0.3-0.5	0.3-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	92	84	94	83

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-37	170847-38	170847-39	170847-40	170847-43
Your Reference	---------- -	222	223	223	224	226
Depth	----------	1.3-1.4	0.1-0.3	0.4-0.6	0-0.2	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	84	96	88	89	85

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-44	170847-45	170847-46	170847-47	170847-49
Your Reference	---------- -	227	228	229	230	231
Depth	----------	0.3-0.4	0.4-0.5	0.2-0.3	0.1-0.4	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	94	90	90	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-50	170847-51	170847-53	170847-54	170847-55
Your Reference	---------- -	231	232	233	233	234
Depth	----------	0.9-1.2	0.15-0.3	0.1-0.3	1.1-1.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	93	95	98	103

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-56	170847-57	170847-58	170847-59	170847-60
Your Reference	---------- -	235	235	236	237	238
Depth	----------	0.1-0.3	0.5-0.7	0.2-0.5	0.1-0.3	0.1-0.3
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	91	103	107	89

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-61	170847-62	170847-63	170847-64	170847-65
Your Reference	---------- -	239	240	240	241	242
Depth	----------	0.2-0.5	0.1-0.3	0.8-1.0	0.12-0.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	92	107	119	95	129

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-66	170847-67	170847-68	170847-69	170847-71
Your Reference	---------- -	243	244	244	245	BDA-050717
Depth	----------	0.15-0.3	0-0.3	1.5-1.7	0.3-0.5	-
Date Sampled		5/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
TRHC6 - C10	mg/kg	<25	<25	<25	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	116	107	97	94	92

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	170847-72	170847-73	170847-74	170847-76	170847-77
Your Reference	---------- -	BDC-050717	BDB-040717	BD10/050717	TB1	TS1
Depth	----------	-	-	-	-	-
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC6 - C9	mg/kg	<25	<25	<25	[NA]	[NA]
TRHC6 - C10	mg/kg	<25	<25	<25	[NA]	[NA]
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25	<25	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	91%
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	90%
Ethylbenzene	mg/kg	<1	<1	<1	<1	91%
m+p-xylene	mg/kg	<2	<2	<2	<2	90%
o-Xylene	mg/kg	<1	<1	<1	<1	91%
Total +ve Xylenes	mg/kg	<1	<1	<1	[NA]	[NA]
naphthalene	mg/kg	<1	<1	<1	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	91	94	105	100	91

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	170847-78	170847-79
Your Reference	----------	TB1	TS1
	-		
Depth	----------	-	-
Date Sampled		5/07/2017	5/07/2017
Type of sample		Soil	Soil
Date extracted	-	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017
Benzene	mg/kg	<0.2	114%
Toluene	mg/kg	<0.5	112%
Ethylbenzene	mg/kg	<1	112%
m+p-xylene	mg/kg	<2	113%
o-Xylene	mg/kg	<1	112%
Surrogate aaa-Trifluorotoluene	%	98	113

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-4	170847-5
Your Reference	---------- -	201	202	203	203	204
Depth	----------	0-0.1	0-0.05	0-0.2	2-2.2	0-0.15
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	400	<100	<100	150
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	170	<100	<100	490
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	170	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	170	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	390	<100	<100	470
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	620
Total +ve TRH (>C10-C40)	mg/kg	<50	560	<50	<50	1,100
Surrogate o-Terphenyl	%	92	109	93	93	112

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-6	170847-7	170847-8	170847-9	170847-10
Your Reference	---------- -	205	205	206	207	207
Depth	----------	0-0.1	2.2-2.4	0.2-0.5	0.14-0.17	0.4-0.6
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	210	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	160	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	250	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	410	<50	<50	<50	<50
Surrogate o-Terphenyl	%	96	91	90	90	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-11	170847-12	170847-13	170847-14	170847-15
Your Reference	---------- -	208	208	209	209	210
Depth	----------	0.18-0.28	0.28-0.31	0.2-0.3	0.3-0.5	0.16-0.24
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100	<100	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100	110	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100	120	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	120	<50	<50
Surrogate o-Terphenyl	%	90	90	92	91	91

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-16	170847-17	170847-18	170847-20	170847-21
Your Reference	---------- -	210	211	212	213	213
Depth	----------	0.4-0.6	0.16-0.23	0-0.1	0.2-0.25	0.3-0.5
Date Sampled		4/07/2017	5/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100	<100	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	91	94	94	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-22	170847-23	170847-24	170847-25	170847-26
Your Reference	---------- -	214	214	215	215	216
Depth	----------	0-0.2	0.2-0.3	0-0.2	0.5-0.8	0-0.2
Date Sampled		4/07/2017	4/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	110	<50	<50	66	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	1,800	<100	<100	630	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	1,900	<100	<100	590	160
TRH>C$_{10}$-C$_{16}$	mg/kg	340	<50	<50	120	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	340	<50	<50	120	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	3,000	<100	<100	1,000	140
TRH>C$_{34}$-C$_{40}$	mg/kg	1,200	<100	<100	440	220
Total +ve TRH (>C10-C40)	mg/kg	4,500	<50	<50	1,600	360
Surrogate o-Terphenyl	%	#	92	91	127	103

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-27	170847-28	170847-29	170847-30	170847-31
Your Reference	---------- -	216	217	217	218	218
Depth	----------	0.4-0.6	0-0.25	0.25-0.5	0-0.1	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	390	<50	50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	550	1,600	190	110
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	1,400	<100	1,100	540
TRH>C$_{10}$-C$_{16}$	mg/kg	55	59	930	<50	68
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	55	59	930	<50	68
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	1,400	1,100	870	390
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	2,900	<100	1,800	920
Total +ve TRH (>C10-C40)	mg/kg	50	4,300	2,000	2,700	1,400
Surrogate o-Terphenyl	%	103	111	#	114	94

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-32	170847-33	170847-34	170847-35	170847-36
Your Reference	---------- -	219	220	221	221	222
Depth	----------	0-0.2	0-0.2	0-0.1	0.3-0.5	0.3-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	200	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	1,100	<100	170	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	830	<100	130	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	1,700	<100	180	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	2,600	<50	310	<50
Surrogate o-Terphenyl	%	89	114	98	93	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-37	170847-38	170847-39	170847-40	170847-43
Your Reference	---------- -	222	223	223	224	226
Depth	----------	1.3-1.4	0.1-0.3	0.4-0.6	0-0.2	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	120	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	220	<100	<100	250	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	270	<100	<100	250	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	220	<100	<100	140	<100
Total +ve TRH (>C10-C40)	mg/kg	490	<50	<50	390	<50
Surrogate o-Terphenyl	%	94	96	92	92	94

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-44	170847-45	170847-46	170847-47	170847-49
Your Reference	---------- -	227	228	229	230	231
Depth	----------	0.3-0.4	0.4-0.5	0.2-0.3	0.1-0.4	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	560	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	2,300	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	2,400	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	950	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	3,400	<50	<50
Surrogate o-Terphenyl	%	92	96	122	96	97

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-50	170847-51	170847-53	170847-54	170847-55
Your Reference	---------- -	231	232	233	233	234
Depth	----------	0.9-1.2	0.15-0.3	0.1-0.3	1.1-1.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	94	95	93	95

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-56	170847-57	170847-58	170847-59	170847-60
Your Reference	---------- -	235	235	236	237	238
Depth	----------	0.1-0.3	0.5-0.7	0.2-0.5	0.1-0.3	0.1-0.3
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100	<100	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	93	93	95	94	95

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-61	170847-62	170847-63	170847-64	170847-65
Your Reference	---------- -	239	240	240	241	242
Depth	----------	0.2-0.5	0.1-0.3	0.8-1.0	0.12-0.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100	<100	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100	<100	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	94	96	96	94

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	170847-66	170847-67	170847-68	170847-69	170847-71
Your Reference	---------- -	243	244	244	245	BDA-050717
Depth	----------	0.15-0.3	0-0.3	1.5-1.7	0.3-0.5	-
Date Sampled		5/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	94	93	94	94

svTRH (C10-C40) in Soil				
Our Reference:	UNITS	170847-72	170847-73	170847-74
Your Reference	---------- -	BDC-050717	BDB-040717	BD10/050717
Depth	----------	-	-	-
Date Sampled		5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	92	92	92

PAHs in Soil						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-4	170847-5
Your Reference	----------	201	202	203	203	204
Depth	- ----------	0-0.1	0-0.05	0-0.2	2-2.2	0-0.15
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	85	86	84	89	88

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-6 205 0-0.1 5/07/2017 Soil	170847-7 205 2.2-2.4 5/07/2017 Soil	170847-8 206 0.2-0.5 4/07/2017 Soil	170847-9 207 0.14-0.17 4/07/2017 Soil	170847-10 207 0.4-0.6 4/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	88	90	84	88	88

PAHs in Soil						
Our Reference:	UNITS	170847-11	170847-12	170847-13	170847-14	170847-15
Your Reference	----------	208	208	209	209	210
Depth	- ----------	0.18-0.28	0.28-0.31	0.2-0.3	0.3-0.5	0.16-0.24
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	0.3
Surrogate p-Terphenyl-d14	%	83	83	80	81	86

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-16 210 0.4-0.6 4/07/2017 Soil	170847-17 211 0.16-0.23 5/07/2017 Soil	170847-18 212 0-0.1 5/07/2017 Soil	170847-20 213 0.2-0.25 4/07/2017 Soil	170847-21 213 0.3-0.5 4/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.3	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	0.3	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	84	85	80	89	80

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-22 214 0-0.2 4/07/2017 Soil	170847-23 214 0.2-0.3 4/07/2017 Soil	170847-24 215 0-0.2 5/07/2017 Soil	170847-25 215 0.5-0.8 5/07/2017 Soil	170847-26 216 0-0.2 4/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.4
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.8
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.7
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.5
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.4
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.1	<0.05	1.2
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.8
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	0.1	<0.1	1.0
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.5
Total +ve PAH's	mg/kg	0.1	<0.05	0.2	<0.05	7.7
Surrogate p-Terphenyl-d14	%	83	88	83	81	81

PAHs in Soil						
Our Reference:	UNITS	170847-27	170847-28	170847-29	170847-30	170847-31
Your Reference	----------	216	217	217	218	218
Depth	----------	0.4-0.6	0-0.25	0.25-0.5	0-0.1	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	1.0	<0.1	0.3	0.1
Anthracene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	1.1	<0.1	0.6	0.2
Pyrene	mg/kg	0.2	1.0	<0.1	0.6	0.3
Benzo(a)anthracene	mg/kg	0.1	0.5	<0.1	0.3	0.1
Chrysene	mg/kg	0.1	0.4	<0.1	0.2	0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3	0.8	<0.2	0.6	0.3
Benzo(a)pyrene	mg/kg	0.2	0.5	<0.05	0.4	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.2	<0.1	0.2	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	0.5	<0.1	0.3	0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	1.6	6.5	<0.05	3.5	1.5
Surrogate p-Terphenyl-d14	%	81	93	91	94	92

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-32 219 0-0.2 4/07/2017 Soil	170847-33 220 0-0.2 4/07/2017 Soil	170847-34 221 0-0.1 4/07/2017 Soil	170847-35 221 0.3-0.5 4/07/2017 Soil	170847-36 222 0.3-0.5 4/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.2	0.2	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	0.6	0.7	0.1	0.2
Pyrene	mg/kg	0.5	0.6	0.7	0.1	0.2
Benzo(a)anthracene	mg/kg	0.2	0.4	0.4	0.1	0.2
Chrysene	mg/kg	0.2	0.3	0.3	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.5	0.9	0.8	0.3	0.4
Benzo(a)pyrene	mg/kg	0.3	0.62	0.52	0.2	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.3	0.3	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	0.4	0.4	0.1	0.2
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	0.8	0.7	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	0.8	0.7	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	0.8	0.7	<0.5	<0.5
Total +ve PAH's	mg/kg	2.3	4.4	4.2	0.93	1.6
Surrogate p-Terphenyl-d14	%	95	93	101	91	95

PAHs in Soil						
Our Reference:	UNITS	170847-37	170847-38	170847-39	170847-40	170847-43
Your Reference	----------	222	223	223	224	226
Depth	----------	1.3-1.4	0.1-0.3	0.4-0.6	0-0.2	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.6	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.9	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	5.5	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	5.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	2.3	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	1.7	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	3.7	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	2.4	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.9	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.9	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	3.3	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	3.3	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	3.3	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	25	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	92	93	91	91	91

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-44 227 0.3-0.4 4/07/2017 Soil	170847-45 228 0.4-0.5 4/07/2017 Soil	170847-46 229 0.2-0.3 4/07/2017 Soil	170847-47 230 0.1-0.4 4/07/2017 Soil	170847-49 231 0.2-0.5 5/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.05	0.08	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	0.4	0.3	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	92	105	94	98	96

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-50 231 0.9-1.2 5/07/2017 Soil	170847-51 232 0.15-0.3 5/07/2017 Soil	170847-53 233 0.1-0.3 5/07/2017 Soil	170847-54 233 1.1-1.4 5/07/2017 Soil	170847-55 234 0.2-0.5 5/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	92	98	98	94	91

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	170847-56 235 0.1-0.3 5/07/2017 Soil	170847-57 235 0.5-0.7 5/07/2017 Soil	170847-58 236 0.2-0.5 4/07/2017 Soil	170847-59 237 0.1-0.3 4/07/2017 Soil	170847-60 238 0.1-0.3 5/07/2017 Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	94	95	92	96	93

PAHs in Soil						
Our Reference:	UNITS	170847-61	170847-62	170847-63	170847-64	170847-65
Your Reference	----------	239	240	240	241	242
Depth	----------	0.2-0.5	0.1-0.3	0.8-1.0	0.12-0.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	97	96	94	94	96

PAHs in Soil						
Our Reference:	UNITS	170847-66	170847-67	170847-68	170847-69	170847-71
Your Reference	----------	243	244	244	245	BDA-050717
Depth	----------	0.15-0.3	0-0.3	1.5-1.7	0.3-0.5	-
Date Sampled		5/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	0.3	<0.05
Surrogate p-Terphenyl-d14	%	91	92	93	92	91

PAHs in Soil				
Our Reference:	UNITS	170847-72	170847-73	170847-74
Your Reference	----------	BDC-050717	BDB-040717	BD10/050717
Depth	- ----------	-	-	-
Date Sampled		5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.09	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	0.09	<0.05
Surrogate p-Terphenyl-d14	%	91	103	94

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-5	170847-6
Your Reference	----------	201	202	203	204	205
Depth	- ----------	0-0.1	0-0.05	0-0.2	0-0.15	0-0.1
Date Sampled		5/07/2017	5/07/2017	4/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	78	88	110	98

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170847-10	170847-11	170847-17	170847-18	170847-22
Your Reference	----------	207	208	211	212	214
	-					
Depth	----------	0.4-0.6	0.18-0.28	0.16-0.23	0-0.1	0-0.2
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	91	83	92	86	73

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170847-25	170847-26	170847-28	170847-31	170847-36
Your Reference	----------	215	216	217	218	222
	-					
Depth	----------	0.5-0.8	0-0.2	0-0.25	0.2-0.5	0.3-0.5
Date Sampled		5/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	77	78	86	98	83

Organochlorine Pesticides in soil						
Our Reference:	UNITS	170847-40	170847-43	170847-44	170847-51	170847-64
Your Reference	----------	224	226	227	232	241
Depth	- ----------	0-0.2	0-0.2	0.3-0.4	0.15-0.3	0.12-0.4
Date Sampled		4/07/2017	4/07/2017	4/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	81	85	91	102

Organochlorine Pesticides in soil					
Our Reference:	UNITS	170847-69	170847-71	170847-72	170847-73
Your Reference	---------- -	245	BDA-050717	BDC-050717	BDB-040717
Depth	----------	0.3-0.5	-	-	-
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	79	87	94	89

PCBs in Soil						
Our Reference:	UNITS	170847-10	170847-11	170847-17	170847-18	170847-19
Your Reference	----------	207	208	211	212	212
	-					
Depth	----------	0.4-0.6	0.18-0.28	0.16-0.23	0-0.1	0.2-0.3
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	91	83	92	86	88

PCBs in Soil						
Our Reference:	UNITS	170847-22	170847-25	170847-26	170847-28	170847-31
Your Reference	----------	214	215	216	217	218
	-					
Depth	----------	0-0.2	0.5-0.8	0-0.2	0-0.25	0.2-0.5
Date Sampled		4/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	73	77	78	86	98

PCBs in Soil						
Our Reference:	UNITS	170847-36	170847-40	170847-41	170847-51	170847-64
Your Reference	----------	222	224	224	232	241
Depth	----------	0.3-0.5	0-0.2	0.4-0.6	0.15-0.3	0.12-0.4
Date Sampled		4/07/2017	4/07/2017	4/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	83	84	83	91	102

PCBs in Soil				
Our Reference:	UNITS	170847-69	170847-72	170847-73
Your Reference	----------	245	BDC-050717	BDB-040717
Depth	----------	0.3-0.5	-	-
Date Sampled		4/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil
Date extracted	-	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	79	94	89

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-4	170847-5
Your Reference	----------	201	202	203	203	204
Depth	- ----------	0-0.1	0-0.05	0-0.2	2-2.2	0-0.15
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.9
Chromium	mg/kg	15	11	14	6	6
Copper	mg/kg	23	21	24	41	120
Lead	mg/kg	35	28	30	18	30
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	11	10	9	9	5
Zinc	mg/kg	63	61	52	31	120

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-6	170847-7	170847-8	170847-9	170847-10
Your Reference	----------	205	205	206	207	207
Depth	- ----------	0-0.1	2.2-2.4	0.2-0.5	0.14-0.17	0.4-0.6
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	4	<4	<4	<4	<4
Cadmium	mg/kg	0.8	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	2	3	8	2
Copper	mg/kg	84	18	22	50	32
Lead	mg/kg	35	15	8	8	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	28	4	5	38	3
Zinc	mg/kg	140	4	19	37	18

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-11	170847-12	170847-13	170847-14	170847-15
Your Reference	----------	208	208	209	209	210
Depth	- ----------	0.18-0.28	0.28-0.31	0.2-0.3	0.3-0.5	0.16-0.24
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	10	15	9	58
Copper	mg/kg	68	43	58	75	50
Lead	mg/kg	4	11	7	2	8
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	67	27	53	49	74
Zinc	mg/kg	35	63	44	32	60

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-16	170847-17	170847-18	170847-20	170847-21
Your Reference	----------	210	211	212	213	213
Depth	- ----------	0.4-0.6	0.16-0.23	0-0.1	0.2-0.25	0.3-0.5
Date Sampled		4/07/2017	5/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	5	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	66	16	10	4
Copper	mg/kg	44	29	30	48	49
Lead	mg/kg	16	5	20	11	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	19	65	27	42	14
Zinc	mg/kg	66	42	61	51	41

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-22	170847-23	170847-24	170847-25	170847-26
Your Reference	----------	214	214	215	215	216
Depth	----------	0-0.2	0.2-0.3	0-0.2	0.5-0.8	0-0.2
Date Sampled		4/07/2017	4/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	7	12	18	8
Copper	mg/kg	56	34	48	42	39
Lead	mg/kg	9	16	15	13	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	90	20	38	65	19
Zinc	mg/kg	53	210	68	48	78

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-27	170847-28	170847-29	170847-30	170847-31
Your Reference	----------	216	217	217	218	218
Depth	----------	0.4-0.6	0-0.25	0.25-0.5	0-0.1	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	5	18	8	30
Copper	mg/kg	30	25	53	71	120
Lead	mg/kg	11	2	19	8	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	17	3	68	6	17
Zinc	mg/kg	42	11	71	33	40

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-32	170847-33	170847-34	170847-35	170847-36
Your Reference	----------	219	220	221	221	222
Depth	- ----------	0-0.2	0-0.2	0-0.1	0.3-0.5	0.3-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	5	<4	9	<4	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	11	5	5	7
Copper	mg/kg	40	51	25	20	37
Lead	mg/kg	13	6	10	5	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	34	31	12	16	17
Zinc	mg/kg	61	40	41	20	65

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-37	170847-38	170847-39	170847-40	170847-43
Your Reference	----------	222	223	223	224	226
Depth	- ----------	1.3-1.4	0.1-0.3	0.4-0.6	0-0.2	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	1	<0.4
Chromium	mg/kg	7	9	5	18	17
Copper	mg/kg	41	24	34	170	39
Lead	mg/kg	11	15	15	91	31
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	35	15	51	27
Zinc	mg/kg	31	120	59	740	88

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-44	170847-45	170847-46	170847-47	170847-49
Your Reference	---------- -	227	228	229	230	231
Depth	----------	0.3-0.4	0.4-0.5	0.2-0.3	0.1-0.4	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	11	8	<4	<4
Cadmium	mg/kg	<0.4	0.7	<0.4	<0.4	<0.4
Chromium	mg/kg	7	7	10	21	18
Copper	mg/kg	47	75	40	34	26
Lead	mg/kg	16	16	10	17	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	19	13	20	20	23
Zinc	mg/kg	41	100	44	62	39

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-50	170847-51	170847-53	170847-54	170847-55
Your Reference	---------- -	231	232	233	233	234
Depth	----------	0.9-1.2	0.15-0.3	0.1-0.3	1.1-1.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	13	18	22	9	18
Copper	mg/kg	38	45	31	24	35
Lead	mg/kg	17	22	15	10	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	25	29	29	7	24
Zinc	mg/kg	89	67	52	33	52

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-56	170847-57	170847-58	170847-59	170847-60
Your Reference	---------- -	235	235	236	237	238
Depth	----------	0.1-0.3	0.5-0.7	0.2-0.5	0.1-0.3	0.1-0.3
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	14	11	13	21
Copper	mg/kg	33	30	51	35	33
Lead	mg/kg	16	12	19	15	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	24	20	10	24
Zinc	mg/kg	49	59	85	55	52

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-61	170847-62	170847-63	170847-64	170847-65
Your Reference	---------- -	239	240	240	241	242
Depth	----------	0.2-0.5	0.1-0.3	0.8-1.0	0.12-0.4	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	21	20	20	20	18
Copper	mg/kg	32	25	39	31	28
Lead	mg/kg	16	14	17	15	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	28	13	26	24	20
Zinc	mg/kg	48	37	75	47	55

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-66	170847-67	170847-68	170847-69	170847-71
Your Reference	---------- -	243	244	244	245	BDA-050717
Depth	----------	0.15-0.3	0-0.3	1.5-1.7	0.3-0.5	-
Date Sampled		5/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	0.6	<0.4	<0.4	<0.4
Chromium	mg/kg	20	73	13	52	13
Copper	mg/kg	31	66	38	34	25
Lead	mg/kg	14	28	14	6	39
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	21	8	22	61	9
Zinc	mg/kg	69	46	62	51	70

Acid Extractable metals in soil						
Our Reference:	UNITS	170847-72	170847-73	170847-74	170847-82	170847-83
Your Reference	---------- -	BDC-050717	BDB-040717	BD10/050717	213 - [TRIPLICATE]	228 - [TRIPLICATE]
Depth	----------	-	-	-	0.3-0.5	0.4-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	04/07/2017	04/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Arsenic	mg/kg	4	<4	<4	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	4	19	8	6
Copper	mg/kg	30	19	34	32	54
Lead	mg/kg	20	11	15	14	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	29	5	15	13	11
Zinc	mg/kg	45	18	51	46	61

Misc Soil - Inorg						
Our Reference:	UNITS	170847-25	170847-28	170847-37	170847-51	170847-69
Your Reference	----------	215	217	222	232	245
Depth	- ----------	0.5-0.8	0-0.25	1.3-1.4	0.15-0.3	0.3-0.5
Date Sampled		5/07/2017	4/07/2017	4/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Inorg - Soil						
Our Reference:	UNITS	170847-1	170847-3	170847-25	170847-28	170847-37
Your Reference	---------- -	201	203	215	217	222
Depth	----------	0-0.1	0-0.2	0.5-0.8	0-0.25	1.3-1.4
Date Sampled		5/07/2017	4/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
pH 1:5 soil:water	pH Units	6.4	5.6	[NA]	[NA]	[NA]
Presence of Coal Tar*	-	[NA]	[NA]	Absent	Absent	Absent

Misc Inorg - Soil		
Our Reference:	UNITS	170847-43
Your Reference	---------- -	226
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date prepared	-	10/07/2017
Date analysed	-	10/07/2017
pH 1:5 soil:water	pH Units	5.7

Moisture						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-4	170847-5
Your Reference	----------	201	202	203	203	204
Depth	----------	0-0.1	0-0.05	0-0.2	2-2.2	0-0.15
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	5.7	6.6	11	7.0	3.5

Moisture						
Our Reference:	UNITS	170847-6	170847-7	170847-8	170847-9	170847-10
Your Reference	----------	205	205	206	207	207
Depth	----------	0-0.1	2.2-2.4	0.2-0.5	0.14-0.17	0.4-0.6
Date Sampled		5/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	11	11	12	8.3	9.4

Moisture						
Our Reference:	UNITS	170847-11	170847-12	170847-13	170847-14	170847-15
Your Reference	----------	208	208	209	209	210
Depth	----------	0.18-0.28	0.28-0.31	0.2-0.3	0.3-0.5	0.16-0.24
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	15	16	13	8.4	9.0

Moisture						
Our Reference:	UNITS	170847-16	170847-17	170847-18	170847-19	170847-20
Your Reference	----------	210	211	212	212	213
Depth	----------	0.4-0.6	0.16-0.23	0-0.1	0.2-0.3	0.2-0.25
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	11	6.3	9.7	17	14

Moisture						
Our Reference:	UNITS	170847-21	170847-22	170847-23	170847-24	170847-25
Your Reference	---------- -	213	214	214	215	215
Depth	----------	0.3-0.5	0-0.2	0.2-0.3	0-0.2	0.5-0.8
Date Sampled		4/07/2017	4/07/2017	4/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	16	6.2	12	16	11

Moisture						
Our Reference:	UNITS	170847-26	170847-27	170847-28	170847-29	170847-30
Your Reference	---------- -	216	216	217	217	218
Depth	----------	0-0.2	0.4-0.6	0-0.25	0.25-0.5	0-0.1
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	14	12	0.3	15	1.4

Moisture						
Our Reference:	UNITS	170847-31	170847-32	170847-33	170847-34	170847-35
Your Reference	---------- -	218	219	220	221	221
Depth	----------	0.2-0.5	0-0.2	0-0.2	0-0.1	0.3-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	7.7	12	8.4	12	6.8

Moisture						
Our Reference:	UNITS	170847-36	170847-37	170847-38	170847-39	170847-40
Your Reference	---------- -	222	222	223	223	224
Depth	----------	0.3-0.5	1.3-1.4	0.1-0.3	0.4-0.6	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	15	18	10	15	15

Moisture						
Our Reference:	UNITS	170847-41	170847-43	170847-44	170847-45	170847-46
Your Reference	---------- -	224	226	227	228	229
Depth	----------	0.4-0.6	0-0.2	0.3-0.4	0.4-0.5	0.2-0.3
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	8.9	11	5.6	8.2	5.1

Moisture						
Our Reference:	UNITS	170847-47	170847-49	170847-50	170847-51	170847-53
Your Reference	---------- -	230	231	231	232	233
Depth	----------	0.1-0.4	0.2-0.5	0.9-1.2	0.15-0.3	0.1-0.3
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	19	19	16	22	23

Moisture						
Our Reference:	UNITS	170847-54	170847-55	170847-56	170847-57	170847-58
Your Reference	---------- -	233	234	235	235	236
Depth	----------	1.1-1.4	0.2-0.5	0.1-0.3	0.5-0.7	0.2-0.5
Date Sampled		5/07/2017	5/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	13	18	18	17	15

Moisture						
Our Reference:	UNITS	170847-59	170847-60	170847-61	170847-62	170847-63
Your Reference	---------- -	237	238	239	240	240
Depth	----------	0.1-0.3	0.1-0.3	0.2-0.5	0.1-0.3	0.8-1.0
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	14	23	21	19	19

Moisture						
Our Reference:	UNITS	170847-64	170847-65	170847-66	170847-67	170847-68
Your Reference	----------	241	242	243	244	244
	-					
Depth	----------	0.12-0.4	0.2-0.5	0.15-0.3	0-0.3	1.5-1.7
Date Sampled		4/07/2017	5/07/2017	5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	20	20	17	4.7	15

Moisture						
Our Reference:	UNITS	170847-69	170847-71	170847-72	170847-73	170847-74
Your Reference	----------	245	BDA-050717	BDC-050717	BDB-040717	BD10/050717
	-					
Depth	----------	0.3-0.5	-	-	-	-
Date Sampled		4/07/2017	5/07/2017	5/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017
Moisture	%	7.9	5.6	11	9.9	19

Asbestos ID - soils						
Our Reference:	UNITS	170847-22	170847-24	170847-26	170847-31	170847-32
Your Reference	---------- -	214	215	216	218	219
Depth	----------	0-0.2	0-0.2	0-0.2	0.2-0.5	0-0.2
Date Sampled		4/07/2017	5/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	Approx. 45g	Approx. 35g	Approx. 50g	Approx. 50g	Approx. 65g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	170847-33	170847-34	170847-36	170847-38	170847-40
Your Reference	---------- -	220	221	222	223	224
Depth	----------	0-0.2	0-0.1	0.3-0.5	0.1-0.3	0-0.2
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	Approx. 40g	Approx. 45g	Approx. 35g	Approx. 45g	Approx. 40g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	170847-43	170847-44	170847-45	170847-48	170847-49
Your Reference	---------- -	226	227	228	230	231
Depth	----------	0-0.2	0.3-0.4	0.4-0.5	0.7-0.9	0.2-0.5
Date Sampled		4/07/2017	4/07/2017	4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	Approx. 40g	Approx. 50g	Approx. 60g	Approx. 40g	Approx. 65g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	170847-50	170847-55	170847-56	170847-59	170847-60
Your Reference	---------- -	231	234	235	237	238
Depth	----------	0.9-1.2	0.2-0.5	0.1-0.3	0.1-0.3	0.1-0.3
Date Sampled		5/07/2017	5/07/2017	5/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	Approx. 45g	Approx. 40g	Approx. 35g	Approx. 35g	Approx. 45g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils				
Our Reference:	UNITS	170847-64	170847-67	170847-73
Your Reference	----------	241	244	BDB-040717
	-			
Depth	----------	0.12-0.4	0-0.3	-
Date Sampled		4/07/2017	4/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	Approx. 35g	Approx. 40g	Approx. 30g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils NEPM						
Our Reference:	UNITS	170847-1	170847-2	170847-3	170847-5	170847-6
Your Reference	----------	201	202	203	204	205
Depth	- ----------	0-0.1	0-0.05	0-0.2	0-0.15	0-0.1
Date Sampled		5/07/2017	5/07/2017	4/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	735.79	763.22	693.35	784.34	552.57
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Black bituminous soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
FA and AF Estimation*[#2]	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM						
Our Reference:	UNITS	170847-11	170847-14	170847-15	170847-17	170847-18
Your Reference	---------- -	208	209	210	211	212
Depth	----------	0.18-0.28	0.3-0.5	0.16-0.24	0.16-0.23	0-0.1
Date Sampled		5/07/2017	5/07/2017	4/07/2017	5/07/2017	5/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	803.63	836.64	781.92	947.29	687.97
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
FA and AF Estimation*[#2]	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM					
Our Reference:	UNITS	170847-42	170847-52	170847-53	170847-69
Your Reference	---------- -	225	232	233	245
Depth	----------	0-0.2	1.5-1.8	0.1-0.3	0.3-0.5
Date Sampled		4/07/2017	5/07/2017	5/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	13/07/2017	13/07/2017	13/07/2017	13/07/2017
Sample mass tested	g	745.04	458.92	398.98	899.56
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–
FA and AF Estimation*	g	–	–	–	–
FA and AF Estimation*[#2]	%(w/w)	<0.001	<0.001	<0.001	<0.001

Asbestos ID - materials		
Our Reference:	UNITS	170847-75
Your Reference	---------- -	A1
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Material
Date analysed	-	10/07/2017
Mass / Dimension of Sample	-	165x115x5mm
Sample Description	-	Grey compressed fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Amosite asbestos detected

CEC Our Reference: Your Reference	UNITS ---------- -	170847-1 201	170847-3 203	170847-43 226
Depth	----------	0-0.1	0-0.2	0-0.2
Date Sampled		5/07/2017	4/07/2017	4/07/2017
Type of sample		Soil	Soil	Soil
Date prepared	-	10/07/2017	10/07/2017	10/07/2017
Date analysed	-	10/07/2017	10/07/2017	10/07/2017
Exchangeable Ca	meq/100g	5.8	4.3	5.4
Exchangeable K	meq/100g	0.5	0.4	0.9
Exchangeable Mg	meq/100g	2.5	4.5	7.4
Exchangeable Na	meq/100g	0.12	0.37	0.76
Cation Exchange Capacity	meq/100g	8.9	9.6	14

VOCs in water		
Our Reference:	UNITS	170847-70
Your Reference	---------- -	R1
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	11/07/2017
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	39
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	29
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	13
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1
Bromoform	µg/L	1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1

VOCs in water		
Our Reference:	UNITS	170847-70
Your Reference	---------- -	R1
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	107
Surrogate toluene-d8	%	87
Surrogate 4-BFB	%	90

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	11/07/2017
$TRHC_6$ - C_9	µg/L	59
$TRHC_6$ - C_{10}	µg/L	63
$TRHC_6$ - C_{10} less BTEX (F1)	µg/L	63
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	107
Surrogate toluene-d8	%	87
Surrogate 4-BFB	%	90

svTRH (C10-C40) in Water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	10/07/2017
$TRHC_{10}$ - C_{14}	µg/L	<50
$TRHC_{15}$ - C_{28}	µg/L	<100
$TRHC_{29}$ - C_{36}	µg/L	<100
$TRH{>}C_{10}$ - C_{16}	µg/L	<50
$TRH{>}C_{10}$ - C_{16} less Naphthalene (F2)	µg/L	<50
$TRH{>}C_{16}$ - C_{34}	µg/L	<100
$TRH{>}C_{34}$ - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	99

PAHs in Water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	11/07/2017
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	82

OCP in water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	10/07/2017
HCB	µg/L	<0.2
alpha-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
beta-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	71

PCBs in Water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	10/07/2017
Aroclor 1016	µg/L	<2
Aroclor 1221	µg/L	<2
Aroclor 1232	µg/L	<2
Aroclor 1242	µg/L	<2
Aroclor 1248	µg/L	<2
Aroclor 1254	µg/L	<2
Aroclor 1260	µg/L	<2
Surrogate TCLMX	%	71

HM in water - dissolved		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date prepared	-	10/07/2017
Date analysed	-	10/07/2017
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	2

Total Phenolics in Water		
Our Reference:	UNITS	170847-70
Your Reference	----------	R1
	-	
Depth	----------	-
Date Sampled		5/07/2017
Type of sample		Water
Date extracted	-	10/07/2017
Date analysed	-	10/07/2017
Total Phenolics (as Phenol)	mg/L	<0.05

Method ID	Methodology Summary
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Metals-020	Determination of various metals by ICP-AES.

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
RTA T542	Determination of Phenol in core samples as per RTA test method T542. This procedure gives and indication of whether a sample of asphalt has been made with coal tar. The coal tar method gives an approximate result with a high degree of uncertainty.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Metals-022	Determination of various metals by ICP-MS.

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Date analysed	-			11/07/2017	[NT]	[NT]	LCS-6	11/07/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	88%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	89%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	86%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	86%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	80%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	95%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	90%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	85%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	102	[NT]	[NT]	LCS-6	101%
Surrogate aaa-Trifluorotoluene	%		Org-014	86	[NT]	[NT]	LCS-6	75%
Surrogate Toluene-d_8	%		Org-014	96	[NT]	[NT]	LCS-6	95%
Surrogate 4-Bromofluorobenzene	%		Org-014	86	[NT]	[NT]	LCS-6	94%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			11/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	11/07/2017
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	170847-1	<25 || <25	LCS-6	92%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	170847-1	<25 || <25	LCS-6	92%
Benzene	mg/kg	0.2	Org-016	<0.2	170847-1	<0.2 || <0.2	LCS-6	81%
Toluene	mg/kg	0.5	Org-016	<0.5	170847-1	<0.5 || <0.5	LCS-6	84%
Ethylbenzene	mg/kg	1	Org-016	<1	170847-1	<1 || <1	LCS-6	97%
m+p-xylene	mg/kg	2	Org-016	<2	170847-1	<2 || <2	LCS-6	100%
o-Xylene	mg/kg	1	Org-016	<1	170847-1	<1 || <1	LCS-6	81%
naphthalene	mg/kg	1	Org-014	<1	170847-1	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	86	170847-1	109 || 85 || RPD: 25	LCS-6	75%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			11/07/2017	170847-1	11/07/2017 || 11/07/2017	LCS-6	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	170847-1	<50 || <50	LCS-6	90%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	170847-1	<100 || <100	LCS-6	87%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	170847-1	<100 || <100	LCS-6	121%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	170847-1	<50 || <50	LCS-6	90%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	170847-1	<100 || <100	LCS-6	87%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	170847-1	<100 || <100	LCS-6	121%
Surrogate o-Terphenyl	%		Org-003	94	170847-1	92 || 94 || RPD: 2	LCS-6	97%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			11/07/2017	170847-1	11/07/2017 || 11/07/2017	LCS-6	11/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	110%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	102%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	103%
Anthracene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	104%
Pyrene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	102%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	LCS-6	120%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	170847-1	<0.2 || <0.2	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	170847-1	<0.05 || <0.05	LCS-6	93%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	94	170847-1	85 || 90 || RPD: 6	LCS-6	112%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	88%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	96%
Heptachlor	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	83%
delta-BHC	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	81%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	91%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	89%
Dieldrin	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	108%
Endrin	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	96%
pp-DDD	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	112%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	LCS-6	94%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	170847-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	94	170847-1	90 || 93 || RPD: 3	LCS-6	97%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Date analysed	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-6	104%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	94	[NT]	[NT]	LCS-6	91%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			11/07/2017	170847-1	11/07/2017 || 11/07/2017	LCS-6	11/07/2017
Arsenic	mg/kg	4	Metals-020	<4	170847-1	<4 || <4	LCS-6	112%
Cadmium	mg/kg	0.4	Metals-020	<0.4	170847-1	<0.4 || <0.4	LCS-6	106%
Chromium	mg/kg	1	Metals-020	<1	170847-1	15 || 13 || RPD: 14	LCS-6	107%
Copper	mg/kg	1	Metals-020	<1	170847-1	23 || 24 || RPD: 4	LCS-6	109%
Lead	mg/kg	1	Metals-020	<1	170847-1	35 || 39 || RPD: 11	LCS-6	106%
Mercury	mg/kg	0.1	Metals-021	<0.1	170847-1	<0.1 || <0.1	LCS-6	88%
Nickel	mg/kg	1	Metals-020	<1	170847-1	11 || 10 || RPD: 10	LCS-6	102%
Zinc	mg/kg	1	Metals-020	<1	170847-1	63 || 68 || RPD: 8	LCS-6	105%
QUALITY CONTROL Misc Soil - Inorg	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Date analysed	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	LCS-6	96%
QUALITY CONTROL Misc Inorg - Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
Date analysed	-			10/07/2017	[NT]	[NT]	LCS-6	10/07/2017
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-6	101%
Presence of Coal Tar*	-		RTA T542	Absent	[NT]	[NT]	LCS-6	Present

QUALITY CONTROL CEC	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Date analysed	-			10/07/2017	170847-1	10/07/2017 || 10/07/2017	LCS-6	10/07/2017
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	170847-1	5.8 || 5.9 || RPD: 2	LCS-6	107%
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	170847-1	0.5 || 0.5 || RPD: 0	LCS-6	130%
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	170847-1	2.5 || 2.5 || RPD: 0	LCS-6	105%
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	170847-1	0.12 || 0.12 || RPD: 0	LCS-6	122%

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			11/07/2017
Dichlorodifluoromethane	µg/L	10	Org-013	<10
Chloromethane	µg/L	10	Org-013	<10
Vinyl Chloride	µg/L	10	Org-013	<10
Bromomethane	µg/L	10	Org-013	<10
Chloroethane	µg/L	10	Org-013	<10
Trichlorofluoromethane	µg/L	10	Org-013	<10
1,1-Dichloroethene	µg/L	1	Org-013	<1
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1
1,1-dichloroethane	µg/L	1	Org-013	<1
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1
Bromochloromethane	µg/L	1	Org-013	<1
Chloroform	µg/L	1	Org-013	<1
2,2-dichloropropane	µg/L	1	Org-013	<1
1,2-dichloroethane	µg/L	1	Org-013	<1
1,1,1-trichloroethane	µg/L	1	Org-013	<1
1,1-dichloropropene	µg/L	1	Org-013	<1
Cyclohexane	µg/L	1	Org-013	<1
Carbon tetrachloride	µg/L	1	Org-013	<1
Benzene	µg/L	1	Org-013	<1
Dibromomethane	µg/L	1	Org-013	<1
1,2-dichloropropane	µg/L	1	Org-013	<1
Trichloroethene	µg/L	1	Org-013	<1
Bromodichloromethane	µg/L	1	Org-013	<1
trans-1,3-dichloropropene	µg/L	1	Org-013	<1
cis-1,3-dichloropropene	µg/L	1	Org-013	<1
1,1,2-trichloroethane	µg/L	1	Org-013	<1
Toluene	µg/L	1	Org-013	<1
1,3-dichloropropane	µg/L	1	Org-013	<1

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank
Dibromochloromethane	µg/L	1	Org-013	<1
1,2-dibromoethane	µg/L	1	Org-013	<1
Tetrachloroethene	µg/L	1	Org-013	<1
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1
Chlorobenzene	µg/L	1	Org-013	<1
Ethylbenzene	µg/L	1	Org-013	<1
Bromoform	µg/L	1	Org-013	<1
m+p-xylene	µg/L	2	Org-013	<2
Styrene	µg/L	1	Org-013	<1
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1
o-xylene	µg/L	1	Org-013	<1
1,2,3-trichloropropane	µg/L	1	Org-013	<1
Isopropylbenzene	µg/L	1	Org-013	<1
Bromobenzene	µg/L	1	Org-013	<1
n-propyl benzene	µg/L	1	Org-013	<1
2-chlorotoluene	µg/L	1	Org-013	<1
4-chlorotoluene	µg/L	1	Org-013	<1
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1
Tert-butyl benzene	µg/L	1	Org-013	<1
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1
1,3-dichlorobenzene	µg/L	1	Org-013	<1
Sec-butyl benzene	µg/L	1	Org-013	<1
1,4-dichlorobenzene	µg/L	1	Org-013	<1
4-isopropyl toluene	µg/L	1	Org-013	<1
1,2-dichlorobenzene	µg/L	1	Org-013	<1
n-butyl benzene	µg/L	1	Org-013	<1
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1
Hexachlorobutadiene	µg/L	1	Org-013	<1
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1
Surrogate Dibromofluoromethane	%		Org-013	111
Surrogate toluene-d8	%		Org-013	86
Surrogate 4-BFB	%		Org-013	85

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			11/07/2017
$TRHC_6$ - C_9	µg/L	10	Org-016	<10
$TRHC_6$ - C_{10}	µg/L	10	Org-016	<10
Benzene	µg/L	1	Org-016	<1
Toluene	µg/L	1	Org-016	<1
Ethylbenzene	µg/L	1	Org-016	<1
m+p-xylene	µg/L	2	Org-016	<2
o-xylene	µg/L	1	Org-016	<1
Naphthalene	µg/L	1	Org-013	<1
Surrogate Dibromofluoromethane	%		Org-016	111
Surrogate toluene-d8	%		Org-016	86
Surrogate 4-BFB	%		Org-016	85
QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			10/07/2017
$TRHC_{10}$ - C_{14}	µg/L	50	Org-003	<50
$TRHC_{15}$ - C_{28}	µg/L	100	Org-003	<100
$TRHC_{29}$ - C_{36}	µg/L	100	Org-003	<100
$TRH>C_{10}$ - C_{16}	µg/L	50	Org-003	<50
$TRH>C_{16}$ - C_{34}	µg/L	100	Org-003	<100
$TRH>C_{34}$ - C_{40}	µg/L	100	Org-003	<100
Surrogate o-Terphenyl	%		Org-003	74
QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			11/07/2017
Naphthalene	µg/L	1	Org-012	<1
Acenaphthylene	µg/L	1	Org-012	<1
Acenaphthene	µg/L	1	Org-012	<1
Fluorene	µg/L	1	Org-012	<1
Phenanthrene	µg/L	1	Org-012	<1
Anthracene	µg/L	1	Org-012	<1
Fluoranthene	µg/L	1	Org-012	<1
Pyrene	µg/L	1	Org-012	<1
Benzo(a)anthracene	µg/L	1	Org-012	<1
Chrysene	µg/L	1	Org-012	<1
Benzo(b,j+k) fluoranthene	µg/L	2	Org-012	<2

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank
Benzo(a)pyrene	µg/L	1	Org-012	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1
Surrogate p-Terphenyl-d14	%		Org-012	70
QUALITY CONTROL OCP in water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			10/07/2017
HCB	µg/L	0.2	Org-005	<0.2
alpha-BHC	µg/L	0.2	Org-005	<0.2
gamma-BHC	µg/L	0.2	Org-005	<0.2
beta-BHC	µg/L	0.2	Org-005	<0.2
Heptachlor	µg/L	0.2	Org-005	<0.2
delta-BHC	µg/L	0.2	Org-005	<0.2
Aldrin	µg/L	0.2	Org-005	<0.2
Heptachlor Epoxide	µg/L	0.2	Org-005	<0.2
gamma-Chlordane	µg/L	0.2	Org-005	<0.2
alpha-Chlordane	µg/L	0.2	Org-005	<0.2
Endosulfan I	µg/L	0.2	Org-005	<0.2
pp-DDE	µg/L	0.2	Org-005	<0.2
Dieldrin	µg/L	0.2	Org-005	<0.2
Endrin	µg/L	0.2	Org-005	<0.2
pp-DDD	µg/L	0.2	Org-005	<0.2
Endosulfan II	µg/L	0.2	Org-005	<0.2
pp-DDT	µg/L	0.2	Org-005	<0.2
Endrin Aldehyde	µg/L	0.2	Org-005	<0.2
Endosulfan Sulphate	µg/L	0.2	Org-005	<0.2
Methoxychlor	µg/L	0.2	Org-005	<0.2
Surrogate TCMX	%		Org-005	92

QUALITY CONTROL PCBs in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			10/07/2017
Aroclor 1016	µg/L	2	Org-006	<2
Aroclor 1221	µg/L	2	Org-006	<2
Aroclor 1232	µg/L	2	Org-006	<2
Aroclor 1242	µg/L	2	Org-006	<2
Aroclor 1248	µg/L	2	Org-006	<2
Aroclor 1254	µg/L	2	Org-006	<2
Aroclor 1260	µg/L	2	Org-006	<2
Surrogate TCLMX	%		Org-006	92

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank
Date prepared	-			10/07/2017
Date analysed	-			10/07/2017
Arsenic-Dissolved	µg/L	1	Metals-022	<1
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1
Chromium-Dissolved	µg/L	1	Metals-022	<1
Copper-Dissolved	µg/L	1	Metals-022	<1
Lead-Dissolved	µg/L	1	Metals-022	<1
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05
Nickel-Dissolved	µg/L	1	Metals-022	<1
Zinc-Dissolved	µg/L	1	Metals-022	<1

QUALITY CONTROL Total Phenolics in Water	UNITS	PQL	METHOD	Blank
Date extracted	-			10/07/2017
Date analysed	-			10/07/2017
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-11	10/07/2017 || 10/07/2017
Date analysed	-	170847-11	11/07/2017 || 11/07/2017
Dichlorodifluoromethane	mg/kg	170847-11	<1 || <1
Chloromethane	mg/kg	170847-11	<1 || <1
Vinyl Chloride	mg/kg	170847-11	<1 || <1
Bromomethane	mg/kg	170847-11	<1 || <1
Chloroethane	mg/kg	170847-11	<1 || <1
Trichlorofluoromethane	mg/kg	170847-11	<1 || <1
1,1-Dichloroethene	mg/kg	170847-11	<1 || <1
trans-1,2-dichloroethene	mg/kg	170847-11	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
1,1-dichloroethane	mg/kg	170847-11	<1 || <1
cis-1,2-dichloroethene	mg/kg	170847-11	<1 || <1
bromochloromethane	mg/kg	170847-11	<1 || <1
chloroform	mg/kg	170847-11	<1 || <1
2,2-dichloropropane	mg/kg	170847-11	<1 || <1
1,2-dichloroethane	mg/kg	170847-11	<1 || <1
1,1,1-trichloroethane	mg/kg	170847-11	<1 || <1
1,1-dichloropropene	mg/kg	170847-11	<1 || <1
Cyclohexane	mg/kg	170847-11	<1 || <1
carbon tetrachloride	mg/kg	170847-11	<1 || <1
Benzene	mg/kg	170847-11	<0.2 || <0.2
dibromomethane	mg/kg	170847-11	<1 || <1
1,2-dichloropropane	mg/kg	170847-11	<1 || <1
trichloroethene	mg/kg	170847-11	<1 || <1
bromodichloromethane	mg/kg	170847-11	<1 || <1
trans-1,3-dichloropropene	mg/kg	170847-11	<1 || <1
cis-1,3-dichloropropene	mg/kg	170847-11	<1 || <1
1,1,2-trichloroethane	mg/kg	170847-11	<1 || <1
Toluene	mg/kg	170847-11	<0.5 || <0.5
1,3-dichloropropane	mg/kg	170847-11	<1 || <1
dibromochloromethane	mg/kg	170847-11	<1 || <1
1,2-dibromoethane	mg/kg	170847-11	<1 || <1
tetrachloroethene	mg/kg	170847-11	<1 || <1
1,1,1,2-tetrachloroethane	mg/kg	170847-11	<1 || <1
chlorobenzene	mg/kg	170847-11	<1 || <1
Ethylbenzene	mg/kg	170847-11	<1 || <1
bromoform	mg/kg	170847-11	<1 || <1
m+p-xylene	mg/kg	170847-11	<2 || <2
styrene	mg/kg	170847-11	<1 || <1
1,1,2,2-tetrachloroethane	mg/kg	170847-11	<1 || <1
o-Xylene	mg/kg	170847-11	<1 || <1
1,2,3-trichloropropane	mg/kg	170847-11	<1 || <1
isopropylbenzene	mg/kg	170847-11	<1 || <1
bromobenzene	mg/kg	170847-11	<1 || <1
n-propyl benzene	mg/kg	170847-11	<1 || <1
2-chlorotoluene	mg/kg	170847-11	<1 || <1
4-chlorotoluene	mg/kg	170847-11	<1 || <1
1,3,5-trimethyl benzene	mg/kg	170847-11	<1 || <1
tert-butyl benzene	mg/kg	170847-11	<1 || <1
1,2,4-trimethyl benzene	mg/kg	170847-11	<1 || <1
1,3-dichlorobenzene	mg/kg	170847-11	<1 || <1
sec-butyl benzene	mg/kg	170847-11	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
1,4-dichlorobenzene	mg/kg	170847-11	<1 || <1
4-isopropyl toluene	mg/kg	170847-11	<1 || <1
1,2-dichlorobenzene	mg/kg	170847-11	<1 || <1
n-butyl benzene	mg/kg	170847-11	<1 || <1
1,2-dibromo-3-chloropropane	mg/kg	170847-11	<1 || <1
1,2,4-trichlorobenzene	mg/kg	170847-11	<1 || <1
hexachlorobutadiene	mg/kg	170847-11	<1 || <1
1,2,3-trichlorobenzene	mg/kg	170847-11	<1 || <1
Surrogate Dibromofluorometha	%	170847-11	114 || 111 || RPD: 3
Surrogate aaa-Trifluorotoluene	%	170847-11	98 || 93 || RPD: 5
Surrogate Toluene-d_8	%	170847-11	95 || 83 || RPD: 13
Surrogate 4-Bromofluorobenzene	%	170847-11	86 || 85 || RPD: 1

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
Date analysed	-	170847-11	11/07/2017 || 11/07/2017	LCS-7	10/07/2017
$TRHC_6$ - C_9	mg/kg	170847-11	<25 || <25	LCS-7	92%
$TRHC_6$ - C_{10}	mg/kg	170847-11	<25 || <25	LCS-7	92%
Benzene	mg/kg	170847-11	<0.2 || <0.2	LCS-7	86%
Toluene	mg/kg	170847-11	<0.5 || <0.5	LCS-7	92%
Ethylbenzene	mg/kg	170847-11	<1 || <1	LCS-7	93%
m+p-xylene	mg/kg	170847-11	<2 || <2	LCS-7	94%
o-Xylene	mg/kg	170847-11	<1 || <1	LCS-7	93%
naphthalene	mg/kg	170847-11	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-11	98 || 93 || RPD: 5	LCS-7	102%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
Date analysed	-	170847-11	11/07/2017 || 11/07/2017	LCS-7	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	170847-11	<50 || <50	LCS-7	90%
TRHC$_{15}$ - C$_{28}$	mg/kg	170847-11	<100 || <100	LCS-7	87%
TRHC$_{29}$ - C$_{36}$	mg/kg	170847-11	<100 || <100	LCS-7	76%
TRH>C$_{10}$-C$_{16}$	mg/kg	170847-11	<50 || <50	LCS-7	90%
TRH>C$_{16}$-C$_{34}$	mg/kg	170847-11	<100 || <100	LCS-7	87%
TRH>C$_{34}$-C$_{40}$	mg/kg	170847-11	<100 || <100	LCS-7	76%
Surrogate o-Terphenyl	%	170847-11	90 || 89 || RPD: 1	LCS-7	98%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
Date analysed	-	170847-11	11/07/2017 || 11/07/2017	LCS-7	11/07/2017
Naphthalene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	110%
Acenaphthylene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	103%
Phenanthrene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	104%
Anthracene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	96%
Pyrene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	94%
Benzo(a)anthracene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-11	<0.1 || <0.1	LCS-7	121%
Benzo(b,j+k)fluoranthene	mg/kg	170847-11	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-11	<0.05 || <0.05	LCS-7	109%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-11	83 || 83 || RPD: 0	LCS-7	105%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
Date analysed	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
HCB	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	170847-11	<0.1 || <0.1	LCS-7	85%
gamma-BHC	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	170847-11	<0.1 || <0.1	LCS-7	100%
Heptachlor	mg/kg	170847-11	<0.1 || <0.1	LCS-7	87%
delta-BHC	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	170847-11	<0.1 || <0.1	LCS-7	84%
Heptachlor Epoxide	mg/kg	170847-11	<0.1 || <0.1	LCS-7	94%
gamma-Chlordane	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	170847-11	<0.1 || <0.1	LCS-7	91%
Dieldrin	mg/kg	170847-11	<0.1 || <0.1	LCS-7	110%
Endrin	mg/kg	170847-11	<0.1 || <0.1	LCS-7	91%
pp-DDD	mg/kg	170847-11	<0.1 || <0.1	LCS-7	113%
Endosulfan II	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	170847-11	<0.1 || <0.1	LCS-7	102%
Methoxychlor	mg/kg	170847-11	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%	170847-11	83 || 84 || RPD: 1	LCS-7	106%

QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-11	10/07/2017 || 10/07/2017
Date analysed	-	170847-11	10/07/2017 || 10/07/2017
Aroclor 1016	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1221	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1232	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1242	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1248	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1254	mg/kg	170847-11	<0.1 || <0.1
Aroclor 1260	mg/kg	170847-11	<0.1 || <0.1
Surrogate TCLMX	%	170847-11	83 || 84 || RPD: 1

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-11	10/07/2017 || 10/07/2017	LCS-7	10/07/2017
Date analysed	-	170847-11	11/07/2017 || 11/07/2017	LCS-7	11/07/2017
Arsenic	mg/kg	170847-11	<4 || <4	LCS-7	110%
Cadmium	mg/kg	170847-11	<0.4 || <0.4	LCS-7	106%
Chromium	mg/kg	170847-11	10 || 10 || RPD: 0	LCS-7	107%
Copper	mg/kg	170847-11	68 || 57 || RPD: 18	LCS-7	107%
Lead	mg/kg	170847-11	4 || 5 || RPD: 22	LCS-7	106%
Mercury	mg/kg	170847-11	<0.1 || <0.1	LCS-7	109%
Nickel	mg/kg	170847-11	67 || 57 || RPD: 16	LCS-7	102%
Zinc	mg/kg	170847-11	35 || 36 || RPD: 3	LCS-7	104%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-21	10/07/2017 || 10/07/2017	LCS-8	10/07/2017
Date analysed	-	170847-21	10/07/2017 || 10/07/2017	LCS-8	11/07/2017
$TRHC_6$ - C_9	mg/kg	170847-21	<25 || <25	LCS-8	109%
$TRHC_6$ - C_{10}	mg/kg	170847-21	<25 || <25	LCS-8	109%
Benzene	mg/kg	170847-21	<0.2 || <0.2	LCS-8	102%
Toluene	mg/kg	170847-21	<0.5 || <0.5	LCS-8	109%
Ethylbenzene	mg/kg	170847-21	<1 || <1	LCS-8	110%
m+p-xylene	mg/kg	170847-21	<2 || <2	LCS-8	111%
o-Xylene	mg/kg	170847-21	<1 || <1	LCS-8	110%
naphthalene	mg/kg	170847-21	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-21	92 || 82 || RPD: 11	LCS-8	121%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-21	10/07/2017 || 10/07/2017	LCS-8	10/07/2017
Date analysed	-	170847-21	11/07/2017 || 11/07/2017	LCS-8	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	170847-21	<50 || <50	LCS-8	93%
TRHC$_{15}$ - C$_{28}$	mg/kg	170847-21	<100 || <100	LCS-8	90%
TRHC$_{29}$ - C$_{36}$	mg/kg	170847-21	<100 || <100	LCS-8	76%
TRH>C$_{10}$-C$_{16}$	mg/kg	170847-21	<50 || <50	LCS-8	93%
TRH>C$_{16}$-C$_{34}$	mg/kg	170847-21	<100 || <100	LCS-8	90%
TRH>C$_{34}$-C$_{40}$	mg/kg	170847-21	<100 || <100	LCS-8	76%
Surrogate o-Terphenyl	%	170847-21	93 || 93 || RPD: 0	LCS-8	100%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-21	10/07/2017 || 10/07/2017	LCS-8	10/07/2017
Date analysed	-	170847-21	11/07/2017 || 11/07/2017	LCS-8	11/07/2017
Naphthalene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	109%
Acenaphthylene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	98%
Phenanthrene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	104%
Anthracene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	104%
Pyrene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	103%
Benzo(a)anthracene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-21	<0.1 || <0.1	LCS-8	120%
Benzo(b,j+k)fluoranthene	mg/kg	170847-21	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-21	<0.05 || <0.05	LCS-8	125%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-21	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-21	80 || 82 || RPD: 2	LCS-8	118%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-21	10/07/2017 || 10/07/2017	LCS-8	10/07/2017
Date analysed	-	170847-21	11/07/2017 || 11/07/2017	LCS-8	11/07/2017
Arsenic	mg/kg	170847-21	<4 || <4	LCS-8	109%
Cadmium	mg/kg	170847-21	<0.4 || <0.4	LCS-8	102%
Chromium	mg/kg	170847-21	4 || 8 || RPD: 67	LCS-8	107%
Copper	mg/kg	170847-21	49 || 55 || RPD: 12	LCS-8	106%
Lead	mg/kg	170847-21	14 || 20 || RPD: 35	LCS-8	103%
Mercury	mg/kg	170847-21	<0.1 || <0.1	LCS-8	110%
Nickel	mg/kg	170847-21	14 || 21 || RPD: 40	LCS-8	101%
Zinc	mg/kg	170847-21	41 || 99 || RPD: 83	LCS-8	103%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-31	10/07/2017 || 10/07/2017	LCS-9	10/07/2017
Date analysed	-	170847-31	10/07/2017 || 10/07/2017	LCS-9	11/07/2017
$TRHC_6$ - C_9	mg/kg	170847-31	<25 || <25	LCS-9	107%
$TRHC_6$ - C_{10}	mg/kg	170847-31	<25 || <25	LCS-9	107%
Benzene	mg/kg	170847-31	<0.2 || <0.2	LCS-9	100%
Toluene	mg/kg	170847-31	<0.5 || <0.5	LCS-9	107%
Ethylbenzene	mg/kg	170847-31	<1 || <1	LCS-9	108%
m+p-xylene	mg/kg	170847-31	<2 || <2	LCS-9	109%
o-Xylene	mg/kg	170847-31	<1 || <1	LCS-9	108%
naphthalene	mg/kg	170847-31	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-31	101 || 94 || RPD: 7	LCS-9	118%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-31	10/07/2017 || 10/07/2017	LCS-9	10/07/2017
Date analysed	-	170847-31	11/07/2017 || 11/07/2017	LCS-9	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	170847-31	50 || 74 || RPD: 39	LCS-9	87%
$TRHC_{15}$ - C_{28}	mg/kg	170847-31	110 || 230 || RPD: 71	LCS-9	85%
$TRHC_{29}$ - C_{36}	mg/kg	170847-31	540 || 810 || RPD: 40	LCS-9	91%
$TRH>C_{10}$-C_{16}	mg/kg	170847-31	68 || 110 || RPD: 47	LCS-9	87%
$TRH>C_{16}$-C_{34}	mg/kg	170847-31	390 || 690 || RPD: 56	LCS-9	85%
$TRH>C_{34}$-C_{40}	mg/kg	170847-31	920 || 1200 || RPD: 26	LCS-9	91%
Surrogate o-Terphenyl	%	170847-31	94 || 100 || RPD: 6	LCS-9	99%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-31	10/07/2017 || 10/07/2017	LCS-9	10/07/2017
Date analysed	-	170847-31	11/07/2017 || 11/07/2017	LCS-9	11/07/2017
Naphthalene	mg/kg	170847-31	<0.1 || <0.1	LCS-9	110%
Acenaphthylene	mg/kg	170847-31	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-31	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-31	<0.1 || <0.1	LCS-9	98%
Phenanthrene	mg/kg	170847-31	0.1 || <0.1	LCS-9	104%
Anthracene	mg/kg	170847-31	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-31	0.2 || 0.1 || RPD: 67	LCS-9	106%
Pyrene	mg/kg	170847-31	0.3 || 0.1 || RPD: 100	LCS-9	106%
Benzo(a)anthracene	mg/kg	170847-31	0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-31	0.1 || <0.1	LCS-9	121%
Benzo(b,j+k)fluoranthene	mg/kg	170847-31	0.3 || 0.2 || RPD: 40	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-31	0.2 || 0.1 || RPD: 67	LCS-9	121%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-31	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-31	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-31	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-31	92 || 95 || RPD: 3	LCS-9	121%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-31	10/07/2017 || 10/07/2017
Date analysed	-	170847-31	10/07/2017 || 10/07/2017
HCB	mg/kg	170847-31	<0.1 || <0.1
alpha-BHC	mg/kg	170847-31	<0.1 || <0.1
gamma-BHC	mg/kg	170847-31	<0.1 || <0.1
beta-BHC	mg/kg	170847-31	<0.1 || <0.1
Heptachlor	mg/kg	170847-31	<0.1 || <0.1
delta-BHC	mg/kg	170847-31	<0.1 || <0.1
Aldrin	mg/kg	170847-31	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	170847-31	<0.1 || <0.1
gamma-Chlordane	mg/kg	170847-31	<0.1 || <0.1
alpha-chlordane	mg/kg	170847-31	<0.1 || <0.1
Endosulfan I	mg/kg	170847-31	<0.1 || <0.1
pp-DDE	mg/kg	170847-31	<0.1 || <0.1
Dieldrin	mg/kg	170847-31	<0.1 || <0.1
Endrin	mg/kg	170847-31	<0.1 || <0.1
pp-DDD	mg/kg	170847-31	<0.1 || <0.1
Endosulfan II	mg/kg	170847-31	<0.1 || <0.1
pp-DDT	mg/kg	170847-31	<0.1 || <0.1
Endrin Aldehyde	mg/kg	170847-31	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	170847-31	<0.1 || <0.1

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Methoxychlor	mg/kg	170847-31	<0.1 || <0.1
Surrogate TCMX	%	170847-31	98 || 95 || RPD: 3

QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-31	10/07/2017 || 10/07/2017
Date analysed	-	170847-31	10/07/2017 || 10/07/2017
Aroclor 1016	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1221	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1232	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1242	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1248	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1254	mg/kg	170847-31	<0.1 || <0.1
Aroclor 1260	mg/kg	170847-31	<0.1 || <0.1
Surrogate TCLMX	%	170847-31	98 || 95 || RPD: 3

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-31	10/07/2017 || 10/07/2017	LCS-9	10/07/2017
Date analysed	-	170847-31	11/07/2017 || 11/07/2017	LCS-9	11/07/2017
Arsenic	mg/kg	170847-31	5 || <4	LCS-9	109%
Cadmium	mg/kg	170847-31	<0.4 || <0.4	LCS-9	105%
Chromium	mg/kg	170847-31	30 || 26 || RPD: 14	LCS-9	109%
Copper	mg/kg	170847-31	120 || 100 || RPD: 18	LCS-9	109%
Lead	mg/kg	170847-31	10 || 10 || RPD: 0	LCS-9	104%
Mercury	mg/kg	170847-31	<0.1 || <0.1	LCS-9	105%
Nickel	mg/kg	170847-31	17 || 15 || RPD: 12	LCS-9	103%
Zinc	mg/kg	170847-31	40 || 56 || RPD: 33	LCS-9	105%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
Date analysed	-	170847-43	11/07/2017 || 11/07/2017	170847-2	10/07/2017
$TRHC_6$ - C_9	mg/kg	170847-43	<25 || <25	170847-2	90%
$TRHC_6$ - C_{10}	mg/kg	170847-43	<25 || <25	170847-2	90%
Benzene	mg/kg	170847-43	<0.2 || <0.2	170847-2	82%
Toluene	mg/kg	170847-43	<0.5 || <0.5	170847-2	87%
Ethylbenzene	mg/kg	170847-43	<1 || <1	170847-2	94%
m+p-xylene	mg/kg	170847-43	<2 || <2	170847-2	94%
o-Xylene	mg/kg	170847-43	<1 || <1	170847-2	94%
naphthalene	mg/kg	170847-43	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-43	85 || 99 || RPD: 15	170847-2	91%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
Date analysed	-	170847-43	11/07/2017 || 11/07/2017	170847-2	11/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	170847-43	<50 || <50	170847-2	#
TRHC$_{15}$ - C$_{28}$	mg/kg	170847-43	<100 || <100	170847-2	#
TRHC$_{29}$ - C$_{36}$	mg/kg	170847-43	<100 || <100	170847-2	106%
TRH>C$_{10}$-C$_{16}$	mg/kg	170847-43	<50 || <50	170847-2	#
TRH>C$_{16}$-C$_{34}$	mg/kg	170847-43	<100 || <100	170847-2	#
TRH>C$_{34}$-C$_{40}$	mg/kg	170847-43	<100 || <100	170847-2	106%
Surrogate o-Terphenyl	%	170847-43	94 || 93 || RPD: 1	170847-2	109%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
Date analysed	-	170847-43	11/07/2017 || 11/07/2017	170847-2	11/07/2017
Naphthalene	mg/kg	170847-43	<0.1 || <0.1	170847-2	106%
Acenaphthylene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-43	<0.1 || <0.1	170847-2	93%
Phenanthrene	mg/kg	170847-43	<0.1 || <0.1	170847-2	95%
Anthracene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-43	<0.1 || <0.1	170847-2	86%
Pyrene	mg/kg	170847-43	<0.1 || <0.1	170847-2	88%
Benzo(a)anthracene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-43	<0.1 || <0.1	170847-2	110%
Benzo(b,j+k)fluoranthene	mg/kg	170847-43	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-43	<0.05 || <0.05	170847-2	104%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-43	91 || 93 || RPD: 2	170847-2	100%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
Date analysed	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
HCB	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	170847-43	<0.1 || <0.1	170847-2	74%
gamma-BHC	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	170847-43	<0.1 || <0.1	170847-2	98%
Heptachlor	mg/kg	170847-43	<0.1 || <0.1	170847-2	103%
delta-BHC	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	170847-43	<0.1 || <0.1	170847-2	101%
Heptachlor Epoxide	mg/kg	170847-43	<0.1 || <0.1	170847-2	98%
gamma-Chlordane	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	170847-43	<0.1 || <0.1	170847-2	98%
Dieldrin	mg/kg	170847-43	<0.1 || <0.1	170847-2	106%
Endrin	mg/kg	170847-43	<0.1 || <0.1	170847-2	105%
pp-DDD	mg/kg	170847-43	<0.1 || <0.1	170847-2	128%
Endosulfan II	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	170847-43	<0.1 || <0.1	170847-2	102%
Methoxychlor	mg/kg	170847-43	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%	170847-43	81 || 89 || RPD: 9	170847-2	103%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-43	10/07/2017 || 10/07/2017	170847-2	10/07/2017
Date analysed	-	170847-43	11/07/2017 || 11/07/2017	170847-2	11/07/2017
Arsenic	mg/kg	170847-43	5 || 5 || RPD: 0	170847-2	98%
Cadmium	mg/kg	170847-43	<0.4 || <0.4	170847-2	99%
Chromium	mg/kg	170847-43	17 || 19 || RPD: 11	170847-2	103%
Copper	mg/kg	170847-43	39 || 41 || RPD: 5	170847-2	105%
Lead	mg/kg	170847-43	31 || 31 || RPD: 0	170847-2	93%
Mercury	mg/kg	170847-43	<0.1 || <0.1	170847-2	91%
Nickel	mg/kg	170847-43	27 || 23 || RPD: 16	170847-2	95%
Zinc	mg/kg	170847-43	88 || 83 || RPD: 6	170847-2	87%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-45	10/07/2017 || 10/07/2017	170847-22	10/07/2017
Date analysed	-	170847-45	11/07/2017 || 11/07/2017	170847-22	10/07/2017
$TRHC_6$ - C_9	mg/kg	170847-45	<25 || <25	170847-22	80%
$TRHC_6$ - C_{10}	mg/kg	170847-45	<25 || <25	170847-22	80%
Benzene	mg/kg	170847-45	<0.2 || <0.2	170847-22	74%
Toluene	mg/kg	170847-45	<0.5 || <0.5	170847-22	79%
Ethylbenzene	mg/kg	170847-45	<1 || <1	170847-22	81%
m+p-xylene	mg/kg	170847-45	<2 || <2	170847-22	82%
o-Xylene	mg/kg	170847-45	<1 || <1	170847-22	81%
naphthalene	mg/kg	170847-45	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-45	94 || 92 || RPD: 2	170847-22	85%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-45	10/07/2017 || 10/07/2017	170847-22	10/07/2017
Date analysed	-	170847-45	11/07/2017 || 11/07/2017	170847-22	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	170847-45	<50 || <50	170847-22	100%
$TRHC_{15}$ - C_{28}	mg/kg	170847-45	<100 || 120	170847-22	#
$TRHC_{29}$ - C_{36}	mg/kg	170847-45	<100 || <100	170847-22	#
$TRH>C_{10}$-C_{16}	mg/kg	170847-45	<50 || <50	170847-22	100%
$TRH>C_{16}$-C_{34}	mg/kg	170847-45	<100 || 140	170847-22	#
$TRH>C_{34}$-C_{40}	mg/kg	170847-45	<100 || <100	170847-22	#
Surrogate o-Terphenyl	%	170847-45	96 || 99 || RPD: 3	170847-22	#

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-45	10/07/2017 || 10/07/2017	170847-22	10/07/2017
Date analysed	-	170847-45	11/07/2017 || 11/07/2017	170847-22	11/07/2017
Naphthalene	mg/kg	170847-45	<0.1 || <0.1	170847-22	108%
Acenaphthylene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-45	<0.1 || <0.1	170847-22	98%
Phenanthrene	mg/kg	170847-45	<0.1 || <0.1	170847-22	96%
Anthracene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-45	0.1 || <0.1	170847-22	90%
Pyrene	mg/kg	170847-45	0.1 || <0.1	170847-22	94%
Benzo(a)anthracene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-45	0.1 || <0.1	170847-22	117%
Benzo(b,j+k)fluoranthene	mg/kg	170847-45	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-45	0.05 || <0.05	170847-22	109%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-45	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-45	105 || 107 || RPD: 2	170847-22	107%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	170847-22	10/07/2017
Date analysed	-	[NT]	[NT]	170847-22	10/07/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	170847-22	74%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	170847-22	74%
Heptachlor	mg/kg	[NT]	[NT]	170847-22	95%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	170847-22	101%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	170847-22	80%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	170847-22	75%
Dieldrin	mg/kg	[NT]	[NT]	170847-22	95%
Endrin	mg/kg	[NT]	[NT]	170847-22	83%
pp-DDD	mg/kg	[NT]	[NT]	170847-22	81%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	170847-22	70%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	170847-22	81%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	170847-22	10/07/2017
Date analysed	-	[NT]	[NT]	170847-22	10/07/2017
Aroclor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	[NT]	[NT]	170847-22	106%
Aroclor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	170847-22	75%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-45	10/07/2017 || 10/07/2017	170847-22	10/07/2017
Date analysed	-	170847-45	11/07/2017 || 11/07/2017	170847-22	11/07/2017
Arsenic	mg/kg	170847-45	11 || 8 || RPD: 32	170847-22	85%
Cadmium	mg/kg	170847-45	0.7 || 0.4 || RPD: 55	170847-22	81%
Chromium	mg/kg	170847-45	7 || 4 || RPD: 55	170847-22	90%
Copper	mg/kg	170847-45	75 || 36 || RPD: 70	170847-22	104%
Lead	mg/kg	170847-45	16 || 13 || RPD: 21	170847-22	74%
Mercury	mg/kg	170847-45	<0.1 || <0.1	170847-22	110%
Nickel	mg/kg	170847-45	13 || 12 || RPD: 8	170847-22	113%
Zinc	mg/kg	170847-45	100 || 63 || RPD: 45	170847-22	70%
QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	170847-46	10/07/2017
Date analysed	-	[NT]	[NT]	170847-46	11/07/2017
Dichlorodifluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	[NT]	[NT]	170847-46	101%
cis-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
bromochloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	[NT]	[NT]	170847-46	103%
2,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	[NT]	[NT]	170847-46	103%
1,1,1-trichloroethane	mg/kg	[NT]	[NT]	170847-46	96%
1,1-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	[NT]	[NT]	170847-46	88%
bromodichloromethane	mg/kg	[NT]	[NT]	170847-46	108%
trans-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	[NT]	[NT]	170847-46	105%
1,2-dibromoethane	mg/kg	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	[NT]	[NT]	170847-46	93%
1,1,1,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
isopropylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
1,2-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%	[NT]	[NT]	170847-46	103%
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	170847-46	88%
Surrogate Toluene-d8	%	[NT]	[NT]	170847-46	93%
Surrogate 4-Bromofluorobenzene	%	[NT]	[NT]	170847-46	95%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-61	10/07/2017 || 10/07/2017	170847-46	10/07/2017
Date analysed	-	170847-61	11/07/2017 || 11/07/2017	170847-46	11/07/2017
TRHC6 - C9	mg/kg	170847-61	<25 || <25	170847-46	105%
TRHC6 - C10	mg/kg	170847-61	<25 || <25	170847-46	105%
Benzene	mg/kg	170847-61	<0.2 || <0.2	170847-46	91%
Toluene	mg/kg	170847-61	<0.5 || <0.5	170847-46	93%
Ethylbenzene	mg/kg	170847-61	<1 || <1	170847-46	105%
m+p-xylene	mg/kg	170847-61	<2 || <2	170847-46	119%
o-Xylene	mg/kg	170847-61	<1 || <1	170847-46	90%
naphthalene	mg/kg	170847-61	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-61	92 || 100 || RPD: 8	170847-46	88%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-61	10/07/2017 || 10/07/2017	170847-46	10/07/2017
Date analysed	-	170847-61	11/07/2017 || 11/07/2017	170847-46	11/07/2017
TRHC10 - C14	mg/kg	170847-61	<50 || <50	170847-46	#
TRHC15 - C28	mg/kg	170847-61	<100 || <100	170847-46	#
TRHC29 - C36	mg/kg	170847-61	<100 || <100	170847-46	#
TRH>C10-C16	mg/kg	170847-61	<50 || <50	170847-46	#
TRH>C16-C34	mg/kg	170847-61	<100 || <100	170847-46	#
TRH>C34-C40	mg/kg	170847-61	<100 || <100	170847-46	#
Surrogate o-Terphenyl	%	170847-61	94 || 95 || RPD: 1	170847-46	122%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-61	10/07/2017 || 10/07/2017	170847-46	10/07/2017
Date analysed	-	170847-61	11/07/2017 || 11/07/2017	170847-46	11/07/2017
Naphthalene	mg/kg	170847-61	<0.1 || <0.1	170847-46	115%
Acenaphthylene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-61	<0.1 || <0.1	170847-46	99%
Phenanthrene	mg/kg	170847-61	<0.1 || <0.1	170847-46	99%
Anthracene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-61	<0.1 || <0.1	170847-46	107%
Pyrene	mg/kg	170847-61	<0.1 || <0.1	170847-46	113%
Benzo(a)anthracene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-61	<0.1 || <0.1	170847-46	115%
Benzo(b,j+k)fluoranthene	mg/kg	170847-61	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-61	<0.05 || <0.05	170847-46	126%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	170847-61	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-61	97 || 93 || RPD: 4	170847-46	126%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-61	10/07/2017 || 10/07/2017	170847-46	10/07/2017
Date analysed	-	170847-61	11/07/2017 || 11/07/2017	170847-46	11/07/2017
Arsenic	mg/kg	170847-61	<4 || <4	170847-46	83%
Cadmium	mg/kg	170847-61	<0.4 || <0.4	170847-46	91%
Chromium	mg/kg	170847-61	21 || 21 || RPD: 0	170847-46	99%
Copper	mg/kg	170847-61	32 || 32 || RPD: 0	170847-46	97%
Lead	mg/kg	170847-61	16 || 16 || RPD: 0	170847-46	79%
Mercury	mg/kg	170847-61	<0.1 || <0.1	170847-46	107%
Nickel	mg/kg	170847-61	28 || 26 || RPD: 7	170847-46	99%
Zinc	mg/kg	170847-61	48 || 46 || RPD: 4	170847-46	80%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-69	10/07/2017 || 10/07/2017
Date analysed	-	170847-69	11/07/2017 || 11/07/2017
Dichlorodifluoromethane	mg/kg	170847-69	<1 || <1
Chloromethane	mg/kg	170847-69	<1 || <1
Vinyl Chloride	mg/kg	170847-69	<1 || <1
Bromomethane	mg/kg	170847-69	<1 || <1
Chloroethane	mg/kg	170847-69	<1 || <1
Trichlorofluoromethane	mg/kg	170847-69	<1 || <1
1,1-Dichloroethene	mg/kg	170847-69	<1 || <1
trans-1,2-dichloroethene	mg/kg	170847-69	<1 || <1
1,1-dichloroethane	mg/kg	170847-69	<1 || <1
cis-1,2-dichloroethene	mg/kg	170847-69	<1 || <1
bromochloromethane	mg/kg	170847-69	<1 || <1
chloroform	mg/kg	170847-69	<1 || <1
2,2-dichloropropane	mg/kg	170847-69	<1 || <1
1,2-dichloroethane	mg/kg	170847-69	<1 || <1
1,1,1-trichloroethane	mg/kg	170847-69	<1 || <1
1,1-dichloropropene	mg/kg	170847-69	<1 || <1
Cyclohexane	mg/kg	170847-69	<1 || <1
carbon tetrachloride	mg/kg	170847-69	<1 || <1
Benzene	mg/kg	170847-69	<0.2 || <0.2
dibromomethane	mg/kg	170847-69	<1 || <1
1,2-dichloropropane	mg/kg	170847-69	<1 || <1
trichloroethene	mg/kg	170847-69	<1 || <1
bromodichloromethane	mg/kg	170847-69	<1 || <1
trans-1,3-dichloropropene	mg/kg	170847-69	<1 || <1
cis-1,3-dichloropropene	mg/kg	170847-69	<1 || <1
1,1,2-trichloroethane	mg/kg	170847-69	<1 || <1
Toluene	mg/kg	170847-69	<0.5 || <0.5
1,3-dichloropropane	mg/kg	170847-69	<1 || <1
dibromochloromethane	mg/kg	170847-69	<1 || <1
1,2-dibromoethane	mg/kg	170847-69	<1 || <1
tetrachloroethene	mg/kg	170847-69	<1 || <1
1,1,1,2-tetrachloroethane	mg/kg	170847-69	<1 || <1
chlorobenzene	mg/kg	170847-69	<1 || <1
Ethylbenzene	mg/kg	170847-69	<1 || <1
bromoform	mg/kg	170847-69	<1 || <1
m+p-xylene	mg/kg	170847-69	<2 || <2
styrene	mg/kg	170847-69	<1 || <1
1,1,2,2-tetrachloroethane	mg/kg	170847-69	<1 || <1
o-Xylene	mg/kg	170847-69	<1 || <1
1,2,3-trichloropropane	mg/kg	170847-69	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
isopropylbenzene	mg/kg	170847-69	<1 || <1
bromobenzene	mg/kg	170847-69	<1 || <1
n-propyl benzene	mg/kg	170847-69	<1 || <1
2-chlorotoluene	mg/kg	170847-69	<1 || <1
4-chlorotoluene	mg/kg	170847-69	<1 || <1
1,3,5-trimethyl benzene	mg/kg	170847-69	<1 || <1
tert-butyl benzene	mg/kg	170847-69	<1 || <1
1,2,4-trimethyl benzene	mg/kg	170847-69	<1 || <1
1,3-dichlorobenzene	mg/kg	170847-69	<1 || <1
sec-butyl benzene	mg/kg	170847-69	<1 || <1
1,4-dichlorobenzene	mg/kg	170847-69	<1 || <1
4-isopropyl toluene	mg/kg	170847-69	<1 || <1
1,2-dichlorobenzene	mg/kg	170847-69	<1 || <1
n-butyl benzene	mg/kg	170847-69	<1 || <1
1,2-dibromo-3-chloropropane	mg/kg	170847-69	<1 || <1
1,2,4-trichlorobenzene	mg/kg	170847-69	<1 || <1
hexachlorobutadiene	mg/kg	170847-69	<1 || <1
1,2,3-trichlorobenzene	mg/kg	170847-69	<1 || <1
Surrogate Dibromofluorometha	%	170847-69	112 || 115 || RPD: 3
Surrogate aaa-Trifluorotoluene	%	170847-69	94 || 98 || RPD: 4
Surrogate Toluene-d_8	%	170847-69	94 || 99 || RPD: 5
Surrogate 4-Bromofluorobenzene	%	170847-69	87 || 83 || RPD: 5

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-69	10/07/2017 || 10/07/2017	170847-68	10/07/2017
Date analysed	-	170847-69	11/07/2017 || 11/07/2017	170847-68	11/07/2017
$TRHC_6$ - C_9	mg/kg	170847-69	<25 || <25	170847-68	86%
$TRHC_6$ - C_{10}	mg/kg	170847-69	<25 || <25	170847-68	86%
Benzene	mg/kg	170847-69	<0.2 || <0.2	170847-68	82%
Toluene	mg/kg	170847-69	<0.5 || <0.5	170847-68	87%
Ethylbenzene	mg/kg	170847-69	<1 || <1	170847-68	87%
m+p-xylene	mg/kg	170847-69	<2 || <2	170847-68	87%
o-Xylene	mg/kg	170847-69	<1 || <1	170847-68	87%
naphthalene	mg/kg	170847-69	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	170847-69	94 || 98 || RPD: 4	170847-68	91%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-69	10/07/2017 || 10/07/2017	170847-68	10/07/2017
Date analysed	-	170847-69	11/07/2017 || 11/07/2017	170847-68	11/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	170847-69	<50 || <50	170847-68	97%
$TRHC_{15}$ - C_{28}	mg/kg	170847-69	<100 || <100	170847-68	94%
$TRHC_{29}$ - C_{36}	mg/kg	170847-69	<100 || <100	170847-68	100%
$TRH>C_{10}$-C_{16}	mg/kg	170847-69	<50 || <50	170847-68	97%
$TRH>C_{16}$-C_{34}	mg/kg	170847-69	<100 || <100	170847-68	94%
$TRH>C_{34}$-C_{40}	mg/kg	170847-69	<100 || <100	170847-68	100%
Surrogate o-Terphenyl	%	170847-69	94 || 94 || RPD: 0	170847-68	93%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-69	10/07/2017 || 10/07/2017	170847-68	10/07/2017
Date analysed	-	170847-69	11/07/2017 || 11/07/2017	170847-68	11/07/2017
Naphthalene	mg/kg	170847-69	<0.1 || <0.1	170847-68	117%
Acenaphthylene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	170847-69	<0.1 || <0.1	170847-68	103%
Phenanthrene	mg/kg	170847-69	0.3 || 0.3 || RPD: 0	170847-68	104%
Anthracene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	170847-69	<0.1 || <0.1	170847-68	101%
Pyrene	mg/kg	170847-69	<0.1 || <0.1	170847-68	105%
Benzo(a)anthracene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	170847-69	<0.1 || <0.1	170847-68	125%
Benzo(b,j+k)fluoranthene	mg/kg	170847-69	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	170847-69	<0.05 || <0.05	170847-68	116%
Indeno(1,2,3-c,d)pyrene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(g,h,i)perylene	mg/kg	170847-69	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-69	92 || 95 || RPD: 3	170847-68	123%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-69	10/07/2017 || 10/07/2017
Date analysed	-	170847-69	10/07/2017 || 10/07/2017
HCB	mg/kg	170847-69	<0.1 || <0.1
alpha-BHC	mg/kg	170847-69	<0.1 || <0.1
gamma-BHC	mg/kg	170847-69	<0.1 || <0.1
beta-BHC	mg/kg	170847-69	<0.1 || <0.1
Heptachlor	mg/kg	170847-69	<0.1 || <0.1
delta-BHC	mg/kg	170847-69	<0.1 || <0.1
Aldrin	mg/kg	170847-69	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	170847-69	<0.1 || <0.1
gamma-Chlordane	mg/kg	170847-69	<0.1 || <0.1
alpha-chlordane	mg/kg	170847-69	<0.1 || <0.1
Endosulfan I	mg/kg	170847-69	<0.1 || <0.1
pp-DDE	mg/kg	170847-69	<0.1 || <0.1
Dieldrin	mg/kg	170847-69	<0.1 || <0.1
Endrin	mg/kg	170847-69	<0.1 || <0.1
pp-DDD	mg/kg	170847-69	<0.1 || <0.1
Endosulfan II	mg/kg	170847-69	<0.1 || <0.1
pp-DDT	mg/kg	170847-69	<0.1 || <0.1
Endrin Aldehyde	mg/kg	170847-69	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	170847-69	<0.1 || <0.1
Methoxychlor	mg/kg	170847-69	<0.1 || <0.1
Surrogate TCMX	%	170847-69	79 || 82 || RPD: 4

QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	170847-69	10/07/2017 || 10/07/2017
Date analysed	-	170847-69	10/07/2017 || 10/07/2017
Aroclor 1016	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1221	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1232	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1242	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1248	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1254	mg/kg	170847-69	<0.1 || <0.1
Aroclor 1260	mg/kg	170847-69	<0.1 || <0.1
Surrogate TCLMX	%	170847-69	79 || 82 || RPD: 4

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	170847-69	10/07/2017 || 10/07/2017	170847-68	10/07/2017
Date analysed	-	170847-69	11/07/2017 || 11/07/2017	170847-68	11/07/2017
Arsenic	mg/kg	170847-69	<4 || <4	170847-68	88%
Cadmium	mg/kg	170847-69	<0.4 || <0.4	170847-68	82%
Chromium	mg/kg	170847-69	52 || 68 || RPD: 27	170847-68	89%
Copper	mg/kg	170847-69	34 || 35 || RPD: 3	170847-68	100%
Lead	mg/kg	170847-69	6 || 7 || RPD: 15	170847-68	84%
Mercury	mg/kg	170847-69	<0.1 || <0.1	170847-68	98%
Nickel	mg/kg	170847-69	61 || 73 || RPD: 18	170847-68	85%
Zinc	mg/kg	170847-69	51 || 51 || RPD: 0	170847-68	75%

QUALITY CONTROL VOCs in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	10/07/2017
Date analysed	-	[NT]	[NT]	LCS-W1	11/07/2017
Dichlorodifluoromethane	µg/L	[NT]	[NT]	[NR]	[NR]
Chloromethane	µg/L	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	µg/L	[NT]	[NT]	[NR]	[NR]
Bromomethane	µg/L	[NT]	[NT]	[NR]	[NR]
Chloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	µg/L	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	µg/L	[NT]	[NT]	[NR]	[NR]
Trans-1,2-dichloroethene	µg/L	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	µg/L	[NT]	[NT]	LCS-W1	107%
Cis-1,2-dichloroethene	µg/L	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	µg/L	[NT]	[NT]	[NR]	[NR]
Chloroform	µg/L	[NT]	[NT]	LCS-W1	104%
2,2-dichloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	µg/L	[NT]	[NT]	LCS-W1	101%
1,1,1-trichloroethane	µg/L	[NT]	[NT]	LCS-W1	105%

QUALITY CONTROL VOCs in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
1,1-dichloropropene	µg/L	[NT]	[NT]	[NR]	[NR]
Cyclohexane	µg/L	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	µg/L	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	[NT]	[NT]	[NR]	[NR]
Dibromomethane	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
Trichloroethene	µg/L	[NT]	[NT]	LCS-W1	128%
Bromodichloromethane	µg/L	[NT]	[NT]	LCS-W1	103%
trans-1,3-dichloropropene	µg/L	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	µg/L	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
Toluene	µg/L	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	µg/L	[NT]	[NT]	LCS-W1	102%
1,2-dibromoethane	µg/L	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene	µg/L	[NT]	[NT]	LCS-W1	102%
1,1,1,2-tetrachloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Bromoform	µg/L	[NT]	[NT]	[NR]	[NR]
m+p-xylene	µg/L	[NT]	[NT]	[NR]	[NR]
Styrene	µg/L	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
o-xylene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	µg/L	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	µg/L	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
Tert-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Sec-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Hexachlorobutadiene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%	[NT]	[NT]	LCS-W1	99%
Surrogate toluene-d8	%	[NT]	[NT]	LCS-W1	104%
Surrogate 4-BFB	%	[NT]	[NT]	LCS-W1	107%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	10/07/2017
Date analysed	-	[NT]	[NT]	LCS-W1	11/07/2017
$TRHC_6$ - C_9	µg/L	[NT]	[NT]	LCS-W1	105%
$TRHC_6$ - C_{10}	µg/L	[NT]	[NT]	LCS-W1	105%
Benzene	µg/L	[NT]	[NT]	LCS-W1	107%
Toluene	µg/L	[NT]	[NT]	LCS-W1	100%
Ethylbenzene	µg/L	[NT]	[NT]	LCS-W1	105%
m+p-xylene	µg/L	[NT]	[NT]	LCS-W1	106%
o-xylene	µg/L	[NT]	[NT]	LCS-W1	96%
Naphthalene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%	[NT]	[NT]	LCS-W1	99%
Surrogate toluene-d8	%	[NT]	[NT]	LCS-W1	104%
Surrogate 4-BFB	%	[NT]	[NT]	LCS-W1	107%
QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-70	10/07/2017 || 10/07/2017	LCS-W2	10/07/2017
Date analysed	-	170847-70	10/07/2017 || 10/07/2017	LCS-W2	10/07/2017
$TRHC_{10}$ - C_{14}	µg/L	170847-70	<50 || <50	LCS-W2	97%
$TRHC_{15}$ - C_{28}	µg/L	170847-70	<100 || <100	LCS-W2	102%
$TRHC_{29}$ - C_{36}	µg/L	170847-70	<100 || <100	LCS-W2	73%
$TRH{>}C_{10}$ - C_{16}	µg/L	170847-70	<50 || <50	LCS-W2	97%
$TRH{>}C_{16}$ - C_{34}	µg/L	170847-70	<100 || <100	LCS-W2	102%
$TRH{>}C_{34}$ - C_{40}	µg/L	170847-70	<100 || <100	LCS-W2	73%
Surrogate o-Terphenyl	%	170847-70	99 || 99 || RPD: 0	LCS-W2	76%

QUALITY CONTROL PAHs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-70	10/07/2017 || 10/07/2017	LCS-W1	10/07/2017
Date analysed	-	170847-70	11/07/2017 || 11/07/2017	LCS-W1	11/07/2017
Naphthalene	µg/L	170847-70	<1 || <1	LCS-W1	71%
Acenaphthylene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Acenaphthene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Fluorene	µg/L	170847-70	<1 || <1	LCS-W1	81%
Phenanthrene	µg/L	170847-70	<1 || <1	LCS-W1	74%
Anthracene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Fluoranthene	µg/L	170847-70	<1 || <1	LCS-W1	80%
Pyrene	µg/L	170847-70	<1 || <1	LCS-W1	74%
Benzo(a)anthracene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Chrysene	µg/L	170847-70	<1 || <1	LCS-W1	77%
Benzo(b,j+k)fluoranthene	µg/L	170847-70	<2 || <2	[NR]	[NR]
Benzo(a)pyrene	µg/L	170847-70	<1 || <1	LCS-W1	70%
Indeno(1,2,3-c,d)pyrene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	170847-70	<1 || <1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	170847-70	82 || 88 || RPD: 7	LCS-W1	70%

QUALITY CONTROL OCP in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	170847-70	10/07/2017 || 10/07/2017	LCS-W1	10/07/2017
Date analysed	-	170847-70	10/07/2017 || 10/07/2017	LCS-W1	10/07/2017
HCB	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
alpha-BHC	µg/L	170847-70	<0.2 || <0.2	LCS-W1	77%
gamma-BHC	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
beta-BHC	µg/L	170847-70	<0.2 || <0.2	LCS-W1	93%
Heptachlor	µg/L	170847-70	<0.2 || <0.2	LCS-W1	100%
delta-BHC	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
Aldrin	µg/L	170847-70	<0.2 || <0.2	LCS-W1	90%
Heptachlor Epoxide	µg/L	170847-70	<0.2 || <0.2	LCS-W1	94%
gamma-Chlordane	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
alpha-Chlordane	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
Endosulfan I	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
pp-DDE	µg/L	170847-70	<0.2 || <0.2	LCS-W1	99%
Dieldrin	µg/L	170847-70	<0.2 || <0.2	LCS-W1	104%
Endrin	µg/L	170847-70	<0.2 || <0.2	LCS-W1	103%
pp-DDD	µg/L	170847-70	<0.2 || <0.2	LCS-W1	110%
Endosulfan II	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
pp-DDT	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
Endrin Aldehyde	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]
Endosulfan Sulphate	µg/L	170847-70	<0.2 || <0.2	LCS-W1	96%
Methoxychlor	µg/L	170847-70	<0.2 || <0.2	[NR]	[NR]

QUALITY CONTROL OCP in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Surrogate TCMX	%	170847-70	71 || 70 || RPD: 1	LCS-W1	90%
QUALITY CONTROL PCBs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	10/07/2017
Date analysed	-	[NT]	[NT]	LCS-W1	10/07/2017
Aroclor 1016	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	µg/L	[NT]	[NT]	LCS-W1	101%
Aroclor 1260	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	LCS-W1	92%
QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-W1	10/07/2017
Date analysed	-	[NT]	[NT]	LCS-W1	10/07/2017
Arsenic-Dissolved	µg/L	[NT]	[NT]	LCS-W1	100%
Cadmium-Dissolved	µg/L	[NT]	[NT]	LCS-W1	109%
Chromium-Dissolved	µg/L	[NT]	[NT]	LCS-W1	96%
Copper-Dissolved	µg/L	[NT]	[NT]	LCS-W1	98%
Lead-Dissolved	µg/L	[NT]	[NT]	LCS-W1	111%
Mercury-Dissolved	µg/L	[NT]	[NT]	LCS-W1	97%
Nickel-Dissolved	µg/L	[NT]	[NT]	LCS-W1	98%
Zinc-Dissolved	µg/L	[NT]	[NT]	LCS-W1	100%
QUALITY CONTROL Total Phenolics in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	10/07/2017
Date analysed	-	[NT]	[NT]	LCS-W1	10/07/2017
Total Phenolics (as Phenol)	mg/L	[NT]	[NT]	LCS-W1	96%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD		
Date prepared	-	170847-5	10/07/2017 || 10/07/2017		
Date analysed	-	170847-5	11/07/2017 || 11/07/2017		
Arsenic	mg/kg	170847-5	<4 || <4		
Cadmium	mg/kg	170847-5	0.9 || 0.9 || RPD: 0		
Chromium	mg/kg	170847-5	6 || 9 || RPD: 40		
Copper	mg/kg	170847-5	120 || 130 || RPD: 8		
Lead	mg/kg	170847-5	30 || 36 || RPD: 18		
Mercury	mg/kg	170847-5	0.1 || 0.2 || RPD: 67		
Nickel	mg/kg	170847-5	5 || 6 || RPD: 18		

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Zinc	mg/kg	170847-5	120 || 140 || RPD: 15

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	170847-40	10/07/2017 || 10/07/2017
Date analysed	-	170847-40	11/07/2017 || 11/07/2017
Arsenic	mg/kg	170847-40	<4 || <4
Cadmium	mg/kg	170847-40	1 || 1 || RPD: 0
Chromium	mg/kg	170847-40	18 || 19 || RPD: 5
Copper	mg/kg	170847-40	170 || 190 || RPD: 11
Lead	mg/kg	170847-40	91 || 99 || RPD: 8
Mercury	mg/kg	170847-40	<0.1 || <0.1
Nickel	mg/kg	170847-40	51 || 54 || RPD: 6
Zinc	mg/kg	170847-40	740 || 850 || RPD: 14

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170847-21 for Cr, Zn. Therefore a triplicate result has been issued as laboratory sample number 170847-82.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 170847-45 for Cr, Cu. Therefore a triplicate result has been issued as laboratory sample number 170847-83.

sTRH in soil:
Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.
This is reported outside our scope of NATA accreditation.

Note: All samples analysed as received. However, samples 170847-52 & 53 are below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples 170847-24, 33, 34, 36, 40, 43, 44, 55, 56, 59, 64, 67, 73 were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier:	Jessica Hie, Lucy Zhu
Asbestos ID was authorised by Approved Signatory:	Paul Ching

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	85126.03	**Suburb:**	Wetherill Park	**To:**	Envirolab Services
Project Name:	Resource Recovery & Recycling Facility	**Order Number**			12 Ashley Street, Chatswood NSW 2067
Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Depth (m)	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 14	pH	CEC	Asbestos 500mL NEPM 2013	Combo 3	VOC	Combo 5			Notes/preservation
201	0-0.1	1	5/7/17	S	G/bag	✓	✓	✓	✓						Envirolab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200
202	0-0.05	2	5/7/17	S	G/bag	✓			✓						Job No: 170547
203	0-0.2	3	4/7/17	S	G/bag	✓	✓	✓	✓						Date Received: 6/7
203	2-2.2	4	4/7/17	S	G					✓					Time Received: 15:30
204	0-0.15	5	5/7/17	S	G/bag	✓			✓						Received by: JAG
205	0-0.1	6	5/7/17	S	G/bag	✓			✓						Temp: Cool/Ambient
205	2.2-2.4	7	5/7	S	G					✓					Cooling: Icepack
206	0.2-0.5	8	4/7	S	G					✓	✓				Security: Intact/Broken/None
207	0.14-0.17	9	4/7	S	G					✓					missing sample
207	0.4-0.6	10	4/7	S	G						✓	✓			
208	0.18-0.28	11	5/7	S	G/bag				✓		✓	✓			
208	0.28-031	12	5/7	S	G					✓					
209	0.2-0.3	13	5/7	S	G					✓	✓				
209	0.3-0.45	14	5/7	S	G/bag				✓	✓					
PQL (S) mg/kg															**ANZECC PQLs req'd for all water analytes** ☐

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:	**Relinquished by:** DW	**Transported to laboratory by:**	Courier
Send Results to: Douglas Partners Pty Ltd	**Address** 96 Hermitage Road, West Ryde	**Phone:** 98090666	**Fax:** 98094095
Signed:	**Received by:** James - ELS	**Date & Time:** 6/7 15:30	

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	85126.03	**Suburb:**	Wetherill Park	**To:**	Envirolab Services
Project Name:	Resource Recovery & Recycling Facility	**Order Number**			12 Ashley Street, Chatswood NSW 2067
Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID (170647)	depth(m)	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 3	VOC	Asbestos 500mL Screen	Combo 5	PCB	Combo 5G	Combo 7	Coal Tar Presence/Absence	Combo 2G	Notes/preservation
210	0.16-0.24	15	4/7/17	S	G/Bag	✓	✓	✓							
210	0.4-0.6	16	4/7	S	G	✓									
211	0.16-0.23	17	5/7	S	G/Bag		✓	✓	✓						
212	0-0.1	18	5/7	S	G/Bag			✓	✓						
212	0.2-0.3	19	5/7	S	G					✓					
213	0.2-0.25	20	4/7/17	S	G	✓									- minimum sample
213	0.3-0.4	21	4/7	S	G	✓									
214	0-0.2	22	4/7	S	G/Bag						✓				40g sample for asbestos
214	0.2-0.3	23	4/7	S	G	✓									
215	0-0.2	24	5/7	S	G									✓	Subsample for jar for asbestos
215	0.5-0.8	25	5/7	S								✓	✓		
216	0-0.2	26	4/7	S	G/Bag						✓				40g sample for asbestos.
216	0.4-0.6	27	4/7	S	G	✓									
217	0-0.25	28	4/7									✓	✓		
217	0.25-0.5	29	4/7			✓									
PQL (S) mg/kg													**ANZECC PQLs req'd for all water analytes** ☐		

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:	**Relinquished by:** DW	**Transported to laboratory by:**	Courier
Send Results to: Douglas Partners Pty Ltd	**Address** 96 Hermitage Road, West Ryde	**Phone:** 98090666 **Fax:**	98094095
Signed:	**Received by:** James-ELS	**Date & Time:** 6/7 15:30	

Douglas Partners
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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	85126.03	**Suburb:**	Wetherill Park	**To:**	Envirolab Services
Project Name:	Resource Recovery & Recycling Facility	**Order Number**			12 Ashley Street, Chatswood NSW 2067
Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID (170-Day) depth (m)	Lab ID	Date Sampled	Sample Type S - soil W - water	Container Type G - glass P - plastic	Analytes: Combo 3B	Combo 5a	Combo 3a	Combo 4	Lead (trigger at) presence/absence	PCB	Combo 14a	pH + CEC	asbestos 500mL report	Notes/preservation
218 0-0.1	30	4/7	S	G	✓									- mineral sample
218 0.2-0.5	31	4/7	S	G/bag		✓								- 40 g sample for asbestos
219 0-0.2	32	4/7	S	G/bag			✓							- 40 g asbestos
220 0-0.2	33	4/7	S	G			✓							- subsample from jar for asbestos
221 0-0.1	34	4/7	S	G			✓							- subsample from jar for asbestos
221 0.3-0.5	35	4/7	S	G	✓									
222 0.3-0.5	36	4/7	S	G		✓								sub sample from jar for asbestos
222 1.3-1.4	37	4/7	S	G				✓	✓					
223 0.1-0.3	38	4/7	S	G/bag			✓							
223 0.4-0.6	39	4/7	S	G	✓									
224 0-0.2	40	4/7	S	G		✓								
224 0.4-0.6	41	4/7	S	G						✓				
225 0-0.2	42	4/7	S	G							✓		✓	
226 0-0.2	43	4/7	S	G							✓	✓		subsample for asbestos
227 0.3-0.4	44	4/7	S	G							✓			subsample for asbestos
PQL (S) mg/kg													**ANZECC PQLs req'd for all water analytes** ☐	

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:	**Relinquished by:** DW	**Transported to laboratory by:**	Courier
Send Results to: Douglas Partners Pty Ltd	**Address** 96 Hermitage Road, West Ryde	**Phone:** 98090666 **Fax:**	98094095
Signed:	**Received by:** James ELS	**Date & Time:** 6/7 15:30	

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CHAIN OF CUSTODY DESPATCH SHEET

Project No:	85126.03	**Suburb:**	Wetherill Park	**To:**	Envirolab Services
Project Name:	Resource Recovery & Recycling Facility	**Order Number**			12 Ashley Street, Chatswood NSW 2067
Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID (170647 (a)) depth	Lab ID	Date Sampled	Sample Type: S - soil, W - water	Container Type: G - glass, P - plastic	Analytes: Combo 3	VOC	Asbestos 40g sample	Combo 3a	Combo 7	500mL PFAS asbestos				Notes/preservation
228 0.4-0.5	45	4/7		G				✓						subsample for asbestos
229 0.2-0.3	46	4/7		G/P	✓	✓								
230 0.1-0.4	47	4/7		G	✓									
230 0.7-0.9	48	4/7		G			✓							subsample from jar
231 0.2-0.5	49	5/7		G/P				✓						
231 0.9-1.2	50	5/7		G/P				✓						
232 0.15-0.3	51	5/7		G					✓					
232 1.5-1.8	52	5/7		G/P						✓				
233 0.1-0.3	53	5/7		G/P	✓					✓				
233 1.1-1.4	54	5/7		G	✓									
234 0.2-0.5	55	5/7		G/P				✓						
235 0.1-0.3	56	5/7		G				✓						subsample for asbestos if possible.
235 0.5-0.7	57	5/7		G	✓									
236 0.2-0.5	58	4/7		G	✓									
237 0.1-0.3	59	4/7		G				✓						subsample for asbestos if possible
PQL (S) mg/kg														**ANZECC PQLs req'd for all water analytes** ☐

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:	**Relinquished by:** DW	**Transported to laboratory by:**	Courier
Send Results to: Douglas Partners Pty Ltd	**Address:** 96 Hermitage Road, West Ryde	**Phone:** 98090666 **Fax:**	98094095
Signed:	**Received by:** James - ELS	**Date & Time:**	6/7 15:30

Douglas Partners
Geotechnics / Environment / Groundwater

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Project No:	85126.03	**Suburb:**	Wetherill Park	**To:**	Envirolab Services
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Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☑			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: combo 3a	combo 3	combo 5a	asbestos 500mL NEPM	combo 7	VOC				Notes/preservation
170647 dup														
238 / 0.1-0.3	60	5/7	S	G / Bag	✓									
239 / 0.2-0.5	61	5/7	S	G		✓								
240 / 0.1-0.3	62	5/7	S	G		✓								
240 / 0.8-1.0	63	5/7	S	G		✓								
241 / 0.1-0.4	64	4/7	S	G			✓							sub - sample from jar for asbestos
242 / 0.2-0.5	65	5/7	S	G		✓								
243 / 0.15-0.3	66	5/7	S	G		✓								
244 / 0-0.3	67	4/7	S	G	✓									sub sample for asbestos
244 / 0.5-1.7	68	4/7	S	G		✓								
245 / 0.3-0.5	69	5/7	S	G				✓	✓	✓				
PQL (S) mg/kg														

ANZECC PQLs req'd for all water analytes ☐

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container: **Relinquished by:** DW **Transported to laboratory by:** Courier

Send Results to: Douglas Partners Pty Ltd **Address:** 96 Hermitage Road, West Ryde **Phone:** 98090666 **Fax:** 98094095

Signed: **Received by:** James ELS **Date & Time:** 6/7 15:30

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

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Project Name:	Resource Recovery & Recycling Facility	**Order Number**			12 Ashley Street, Chatswood NSW 2067
Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ☐			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☐ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐	No ☐	(If YES, then handle, transport and store in accordance with FPM HAZID)

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
170647					Lead	VOC								
R1	70	5/7	W	2 x 1 Litre bottles	✓	✓								
PQL (S) mg/kg														**ANZECC PQLs req'd for all water analytes** ☐

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:

Relinquished by: DW

Transported to laboratory by: Courier

Send Results to: Douglas Partners Pty Ltd

Address 96 Hermitage Road, West Ryde

Phone: 98090666 **Fax:** 98094095

Signed:

Received by: James-Ellis

Date & Time: 6/7 15:30

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

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Project Manager:	D Walker	**Sampler:**	DW/TG/JS	**Attn:**	Aileen
Emails:	david.walker@douglaspartners.com.au			**Phone:**	02 9910 6200
Date Required:	Same day ☐ 24 hours ☐ 48 hours ☐ 72 hours ☐ Standard ✓			**Email:**	sydney@envirolab.com.au
Prior Storage:	☐ Esky ☑ Fridge ☐ Shelved	Do samples contain 'potential' HBM?	Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 1/4	Combo 5	Combo 5a	Combo 3	TRH BTEX Metals(8) PAH	VOC	PCB	Asbestos	BTEX	Notes/preservation
170647														
BDA-050717	71	5/7	S	G	✓									
BDC-050717	72	5/7	S	G		✓								
BDB-040717	73	5/7	S	G			✓							
BD10/050717	74	5/7	S	G				✓						
BDC-040717		4/7	S	G					✓	✓				send to Envirolab for analysis
BD4/040717		4/7	S	G							✓			
BD9/050717		5/7	S	G					✓					
BD8/050717		5/7	S	G					✓					
A1	75	5/7	M									✓		
TB1	76	4/7	S										✓	
TS1	77	4/7	S										✓	
TB1	78	5/7	S										✓	
TS1	79	5/7	S										✓	
PQL (S) mg/kg														

ANZECC PQLs req'd for all water analytes ☐

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here:

Lab Report/Reference No:

Total number of samples in container:		**Relinquished by:**	DW	**Transported to laboratory by:**	Courier
Send Results to:	Douglas Partners Pty Ltd	**Address**	96 Hermitage Road, West Ryde	**Phone:**	98090666 **Fax:** 98094095
Signed:		**Received by:**	James Ellis	**Date & Time:**	6/7 15:30

2 14/0.4-0.5 80
unlabelled 81
5

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Douglas Partners Pty Ltd
Attention	David Walker

Sample Login Details	
Your Reference	85126.03, Resources Recovery & Recycling Facility
Envirolab Reference	**170847**
Date Sample Received	06/07/2017
Date Instructions Received	06/07/2017
Date Results Expected to be Reported	**13/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	79 soils, 1 water, 1 material
Turnaround Time Requested	Standard
Temperature on receipt (°C)	15.2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on following page

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	VOCs in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Total Phenolics (as Phenol)	pH 1:5 soil:water	Presence of Coal Tar*	Asbestos ID - soils	Asbestos ID - soils NEPM	Asbestos ID - materials	CEC	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCP in water	PCBs in Water	HM in water - dissolved	Total Phenolics in Water	On Hold
201-0-0.1		✓	✓	✓	✓		✓		✓			✓		✓										
202-0-0.05		✓	✓	✓	✓		✓					✓												
203-0-0.2		✓	✓	✓	✓		✓		✓			✓		✓										
203-2-2.2		✓	✓	✓			✓																	
204-0-0.15		✓	✓	✓	✓		✓					✓												
205-0-0.1		✓	✓	✓	✓		✓					✓												
205-2.2-2.4		✓	✓	✓			✓																	
206-0.2-0.5	✓	✓	✓	✓			✓																	
207-0.14-0.17		✓	✓	✓			✓																	
207-0.4-0.6	✓	✓	✓	✓	✓	✓	✓																	
208-0.18-0.28	✓	✓	✓	✓	✓	✓	✓					✓												
208-0.28-0.31		✓	✓	✓			✓																	
209-0.2-0.3	✓	✓	✓	✓			✓																	
209-0.3-0.5		✓	✓	✓			✓					✓												
210-0.16-0.24	✓	✓	✓	✓			✓					✓												
210-0.4-0.6		✓	✓	✓			✓																	
211-0.16-0.23	✓	✓	✓	✓	✓	✓	✓					✓												
212-0-0.1		✓	✓	✓	✓	✓	✓					✓												
212-0.2-0.3						✓																		
213-0.2-0.25		✓	✓	✓			✓																	
213-0.3-0.5		✓	✓	✓			✓																	
214-0-0.2		✓	✓	✓	✓	✓	✓				✓													
214-0.2-0.3		✓	✓	✓			✓																	
215-0-0.2		✓	✓	✓			✓				✓													
215-0.5-0.8		✓	✓	✓	✓	✓	✓	✓		✓														
216-0-0.2		✓	✓	✓	✓	✓	✓				✓													
216-0.4-0.5		✓	✓	✓			✓																	
217-0-0.25		✓	✓	✓	✓	✓	✓	✓		✓														
217-0.25-0.5		✓	✓	✓			✓																	
218-0-0.1		✓	✓	✓			✓																	
218-0.2-0.5		✓	✓	✓	✓	✓	✓				✓													
219-0-0.2		✓	✓	✓			✓				✓													
220-0-0.2		✓	✓	✓			✓				✓													
221-0-0.1		✓	✓	✓			✓				✓													
221-0.3-0.5		✓	✓	✓			✓																	
222-0.3-0.5		✓	✓	✓	✓	✓	✓				✓													
222-1.3-1.5		✓	✓	✓			✓	✓		✓														
223-0.1-0.3		✓	✓	✓			✓				✓													

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Sample Id	VOCs in soil	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Total Phenolics (as Phenol)	pH 1:5 soil:water	Presence of Coal Tar*	Asbestos ID - soils	Asbestos ID - soils NEPM	Asbestos ID - materials	CEC	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water	OCP in water	PCBs in Water	HM in water - dissolved	Total Phenolics in Water	On Hold
223-0.4-0.6		✓	✓	✓			✓																
224-0-0.2		✓	✓	✓	✓	✓	✓				✓												
224-0.4-0.6						✓																	
225-0-0.2											✓												
226-0-0.2		✓	✓	✓	✓		✓		✓		✓			✓									
227-0.3-0.4		✓	✓	✓	✓		✓				✓												
228-0.4-0.5		✓	✓	✓			✓				✓												
229-0.2-0.3	✓	✓	✓	✓			✓																
230-0.1-0.4		✓	✓	✓			✓																
230-0.7-0.9											✓												
231-0.2-0.5		✓	✓	✓			✓				✓												
231-0.9-1.2		✓	✓	✓			✓				✓												
232-0.15-0.3		✓	✓	✓	✓	✓	✓	✓															
232-1.5-1.8												✓											
233-0.1-0.3		✓	✓	✓			✓					✓											
233-1.1-1.4		✓	✓	✓			✓																
234-0.2-0.5		✓	✓	✓			✓				✓												
235-0.1-0.3		✓	✓	✓			✓				✓												
235-0.5-0.7		✓	✓	✓			✓																
236-0.2-0.5		✓	✓	✓			✓																
237-0.1-0.3		✓	✓	✓			✓				✓												
238-0.1-0.3		✓	✓	✓			✓				✓												
239-0.2-0.5		✓	✓	✓			✓																
240-0.1-0.3		✓	✓	✓			✓																
240-0.8-1.0		✓	✓	✓			✓																
241-0.12-0.4		✓	✓	✓	✓	✓	✓				✓												
242-0.2-0.5		✓	✓	✓			✓																
243-0.15-0.3		✓	✓	✓			✓																
244-0-0.3		✓	✓	✓			✓				✓												
244-1.5-1.7		✓	✓	✓			✓																
245-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓				✓											
R1															✓	✓	✓	✓	✓	✓	✓	✓	
BDA-050717		✓	✓	✓	✓		✓																
BDC-050717		✓	✓	✓	✓	✓	✓																
BDB-040717		✓	✓	✓	✓	✓	✓				✓												
BD10/040717		✓	✓	✓			✓																
A1													✓										

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Sample Id	*VOCs in soil*	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Total Phenolics (as Phenol)*	*pH 1:5 soil:water*	*Presence of Coal Tar**	*Asbestos ID - soils*	*Asbestos ID - soils NEPM*	*Asbestos ID - materials*	*CEC*	*VOCs in water*	*vTRH(C6-C10)/BTEXN in Water*	*svTRH (C10-C40) in Water*	*PAHs in Water*	*OCP in water*	*PCBs in Water*	*HM in water - dissolved*	*Total Phenolics in Water*	*On Hold*
TB1		✓																					
TS1		✓																					
TB1		✓																					
TB1		✓																					
214-0.4-0.5																							✓
Unlabelled																							✓

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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 170847-A

Client:
Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	**85126.03, Resources Recovery & Recycling Facility**
No. of samples:	Additional Testing on 1 Soil
Date samples received / completed instructions received	06/07/17 / 14/07/17

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	18/07/17 / 18/07/17
Date of Preliminary Report:	Not Issued

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	170847-A-42
Your Reference	---------- -	225
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date extracted	-	17/07/2017
Date analysed	-	18/07/2017
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	103

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	170847-A-42
Your Reference	---------- -	225
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date extracted	-	17/07/2017
Date analysed	-	17/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	130
TRH>C$_{10}$-C$_{16}$	mg/kg	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	140
TRH>C$_{34}$-C$_{40}$	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	140
Surrogate o-Terphenyl	%	88

PAHs in Soil		
Our Reference:	UNITS	170847-A-42
Your Reference	----------	225
	-	
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date extracted	-	17/07/2017
Date analysed	-	18/07/2017
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Total +ve PAH's	mg/kg	<0.05
Surrogate p-Terphenyl-d14	%	100

Organochlorine Pesticides in soil		
Our Reference:	UNITS	170847-A-42
Your Reference	---------- -	225
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date extracted	-	17/07/2017
Date analysed	-	17/07/2017
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	97

Acid Extractable metals in soil		
Our Reference:	UNITS	170847-A-42
Your Reference	----------	225
	-	
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date prepared	-	17/07/2017
Date analysed	-	17/07/2017
Arsenic	mg/kg	<4
Cadmium	mg/kg	1
Chromium	mg/kg	11
Copper	mg/kg	82
Lead	mg/kg	100
Mercury	mg/kg	<0.1
Nickel	mg/kg	8
Zinc	mg/kg	220

Moisture		
Our Reference:	UNITS	170847-A-42
Your Reference	----------	225
	-	
Depth	----------	0-0.2
Date Sampled		4/07/2017
Type of sample		Soil
Date prepared	-	17/07/2017
Date analysed	-	18/07/2017
Moisture	%	5.7

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	111%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	111%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	100%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	111%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	113%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	115%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	116%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	95	[NT]	[NT]	LCS-2	118%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	80%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	82%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	76%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	80%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	82%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	76%
Surrogate o-Terphenyl	%		Org-003	101	[NT]	[NT]	LCS-2	114%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	105%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	101%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	105%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	109%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	111%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	119%
Benzo(b,j +k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-2	79%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	103	[NT]	[NT]	LCS-2	100%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	82%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	99%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	103%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	94%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	97%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	101%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	106%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	101%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	110%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	88%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	88	[NT]	[NT]	LCS-2	111%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-2	17/07/2017
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	LCS-2	105%
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	LCS-2	103%
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	107%
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	104%
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	101%
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	LCS-2	101%
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	100%
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	101%

Report Comments:

Asbestos ID was analysed by Approved Identifier: Jessica Hie, Lucy Zhu
Asbestos ID was authorised by Approved Signatory: Paul Ching

INS: Insufficient sample for this test
NR: Test not required
<: Less than
PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than
NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Aileen Hie

From: David Walker <David.Walker@douglaspartners.com.au>
Sent: Friday, 14 July 2017 1:13 PM
To: Aileen Hie
Cc: Ken Nguyen
Subject: RE: Results for Registration 170847 85126.03, Resources Recovery & Recycling Facility

Hi Aileen

Please go ahead with combo 14 analysis on sample 22~~2~~5/0-0.2 170847-42. Please complete analysis by Tuesday 18/7/17 to keep within recommended holding time.

Regards

David Walker | Associate / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
96 Hermitage Road West Ryde NSW 2114 | PO Box 472 West Ryde NSW 1685
P: 02 9809 0666 | F: 02 9809 4095 | M: 0407 540 537 | E: David.Walker@douglaspartners.com.au

From: Ken Nguyen [mailto:KNguyen@envirolab.com.au]
Sent: Thursday, 13 July 2017 6:13 PM
To: David Walker
Subject: Results for Registration 170847 85126.03, Resources Recovery & Recycling Facility

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC
an excel file containing the results

Envirolab Ref: 170847 A
Dve: 18/7/17
2day TAT

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
customerservice@envirolab.com.au

Regards

Envirolab Services
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
www.envirolabservices.com.au

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Certificate of Analysis

Douglas Partners (Syd)
96 Hermitage Road
West Ryde
NSW 2114

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **David Walker**

Report **553545-S**
Project name RESOURCE RECOVERY & RECYCLING FACILITY
Project ID 85126.03
Received Date Jul 07, 2017

Client Sample ID			**BDC-040717**	**BD4/040717**	**BD9/050717**	**BD8/050717**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S17-Jl09639**	**S17-Jl09640**	**S17-Jl09641**	**S17-Jl09642**
Date Sampled			**Jul 04, 2017**	**Jul 04, 2017**	**Jul 05, 2017**	**Jul 05, 2017**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	-	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	103	-	78	67
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	-
Allyl chloride	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			BDC-040717	BD4/040717	BD9/050717	BD8/050717
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S17-Jl09639	S17-Jl09640	S17-Jl09641	S17-Jl09642
Date Sampled			Jul 04, 2017	Jul 04, 2017	Jul 05, 2017	Jul 05, 2017
Test/Reference	LOR	Unit				
Volatile Organics						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Bromobenzene	0.5	mg/kg	< 0.5	-	-	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromoform	0.5	mg/kg	< 0.5	-	-	-
Bromomethane	0.5	mg/kg	< 0.5	-	-	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloroethane	0.5	mg/kg	< 0.5	-	-	-
Chloroform	0.5	mg/kg	< 0.5	-	-	-
Chloromethane	0.5	mg/kg	< 0.5	-	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Dibromomethane	0.5	mg/kg	< 0.5	-	-	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
Iodomethane	0.5	mg/kg	< 0.5	-	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Styrene	0.5	mg/kg	< 0.5	-	-	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Trichloroethene	0.5	mg/kg	< 0.5	-	-	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
Fluorobenzene (surr.)	1	%	100	-	-	-
4-Bromofluorobenzene (surr.)	1	%	103	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5

Client Sample ID			BDC-040717	BD4/040717	BD9/050717	BD8/050717
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S17-Jl09639**	**S17-Jl09640**	**S17-Jl09641**	**S17-Jl09642**
Date Sampled			**Jul 04, 2017**	**Jul 04, 2017**	**Jul 05, 2017**	**Jul 05, 2017**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	83	-	83	70
p-Terphenyl-d14 (surr.)	1	%	93	-	109	76
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	-
Total PCB*	0.5	mg/kg	-	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	-	49	-	-
Heavy Metals						
Arsenic	2	mg/kg	4.0	-	< 2	3.8
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	66	-	21	17
Copper	5	mg/kg	48	-	32	31
Lead	5	mg/kg	7.1	-	14	14
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	79	-	28	28
Zinc	5	mg/kg	59	-	73	72
% Moisture	1	%	7.8	7.7	23	13

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jul 12, 2017	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 12, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 12, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
BTEX	Sydney	Jul 12, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Volatile Organics	Sydney	Jul 12, 2017	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 12, 2017	14 Days
- Method: LTM-ORG-2140 PAH and Phenols in Soils by GCMS			
Polychlorinated Biphenyls	Sydney	Jul 12, 2017	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Jul 12, 2017	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
% Moisture	Sydney	Jul 10, 2017	14 Day
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261
Site # 18217

Company Name: Douglas Partners (Syd)
Address: 96 Hermitage Road
West Ryde
NSW 2114

Order No.:
Report #: 553545
Phone: 02 9809 0666
Fax:

Received: Jul 7, 2017 4:23 PM
Due: Jul 14, 2017
Priority: 5 Day
Contact Name: David Walker

Project Name: RESOURCE RECOVERY & RECYCLING FACILITY
Project ID: 85126.03

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Polycyclic Aromatic Hydrocarbons	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 18217												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BDC-040717	Jul 04, 2017		Soil	S17-Jl09639	X		X	X	X	X	X
2	BD4/040717	Jul 04, 2017		Soil	S17-Jl09640		X				X	
3	BD9/050717	Jul 05, 2017		Soil	S17-Jl09641	X		X	X		X	X
4	BD8/050717	Jul 05, 2017		Soil	S17-Jl09642	X		X	X		X	X
Test Counts						3	1	3	3	1	4	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	75			70-130	Pass	
TRH C10-C14	%	129			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	124			70-130	Pass	
Toluene	%	129			70-130	Pass	
Ethylbenzene	%	119			70-130	Pass	
m&p-Xylenes	%	118			70-130	Pass	
o-Xylene	%	112			70-130	Pass	
Xylenes - Total	%	116			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethane	%	119			70-130	Pass	
1.1-Dichloroethene	%	122			70-130	Pass	
1.1.1-Trichloroethane	%	120			70-130	Pass	
1.1.1.2-Tetrachloroethane	%	114			70-130	Pass	
1.1.2-Trichloroethane	%	113			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	113			70-130	Pass	
1.2-Dibromoethane	%	110			70-130	Pass	
1.2-Dichlorobenzene	%	118			70-130	Pass	
1.2-Dichloroethane	%	119			70-130	Pass	
1.2-Dichloropropane	%	119			70-130	Pass	
1.2.3-Trichloropropane	%	121			70-130	Pass	
1.2.4-Trimethylbenzene	%	116			70-130	Pass	
1.3-Dichlorobenzene	%	120			70-130	Pass	
1.3-Dichloropropane	%	116			70-130	Pass	
1.3.5-Trimethylbenzene	%	118			70-130	Pass	
1.4-Dichlorobenzene	%	117			70-130	Pass	
2-Butanone (MEK)	%	91			70-130	Pass	
2-Propanone (Acetone)	%	100			70-130	Pass	
4-Chlorotoluene	%	116			70-130	Pass	
4-Methyl-2-pentanone (MIBK)	%	113			70-130	Pass	
Allyl chloride	%	114			70-130	Pass	
Bromobenzene	%	118			70-130	Pass	
Bromochloromethane	%	115			70-130	Pass	
Bromodichloromethane	%	113			70-130	Pass	
Bromoform	%	109			70-130	Pass	
Bromomethane	%	71			70-130	Pass	
Carbon disulfide	%	109			70-130	Pass	
Carbon Tetrachloride	%	116			70-130	Pass	
Chlorobenzene	%	114			70-130	Pass	
Chloroethane	%	82			70-130	Pass	
Chloroform	%	122			70-130	Pass	
Chloromethane	%	121			70-130	Pass	
cis-1.2-Dichloroethene	%	111			70-130	Pass	
cis-1.3-Dichloropropene	%	110			70-130	Pass	
Dibromochloromethane	%	109			70-130	Pass	
Dibromomethane	%	114			70-130	Pass	
Dichlorodifluoromethane	%	90			70-130	Pass	
Iodomethane	%	80			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Isopropyl benzene (Cumene)	%	112			70-130	Pass	
Methylene Chloride	%	101			70-130	Pass	
Styrene	%	113			70-130	Pass	
Tetrachloroethene	%	110			70-130	Pass	
trans-1.2-Dichloroethene	%	124			70-130	Pass	
trans-1.3-Dichloropropene	%	112			70-130	Pass	
Trichloroethene	%	115			70-130	Pass	
Trichlorofluoromethane	%	109			70-130	Pass	
Vinyl chloride	%	109			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	112			70-130	Pass	
TRH C6-C10	%	84			70-130	Pass	
TRH >C10-C16	%	126			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	125			70-130	Pass	
Acenaphthylene	%	129			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	72			70-130	Pass	
Benzo(a)pyrene	%	118			70-130	Pass	
Benzo(b&j)fluoranthene	%	128			70-130	Pass	
Benzo(g.h.i)perylene	%	107			70-130	Pass	
Benzo(k)fluoranthene	%	115			70-130	Pass	
Chrysene	%	125			70-130	Pass	
Dibenz(a.h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	119			70-130	Pass	
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	117			70-130	Pass	
Naphthalene	%	121			70-130	Pass	
Phenanthrene	%	130			70-130	Pass	
Pyrene	%	117			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	91			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	99			70-130	Pass	
Cadmium	%	102			70-130	Pass	
Chromium	%	99			70-130	Pass	
Copper	%	97			70-130	Pass	
Lead	%	107			70-130	Pass	
Mercury	%	100			70-130	Pass	
Nickel	%	95			70-130	Pass	
Zinc	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S17-Jl10493	NCP	%	82			70-130	Pass	
TRH C10-C14	S17-Jl11523	NCP	%	119			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S17-Jl10493	NCP	%	101			70-130	Pass	
Toluene	S17-Jl10493	NCP	%	79			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	S17-Jl10493	NCP	%	88			70-130	Pass	
m&p-Xylenes	S17-Jl10493	NCP	%	96			70-130	Pass	
o-Xylene	S17-Jl10493	NCP	%	86			70-130	Pass	
Xylenes - Total	S17-Jl10493	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S17-Jl10493	NCP	%	118			70-130	Pass	
TRH C6-C10	S17-Jl10493	NCP	%	83			70-130	Pass	
TRH >C10-C16	S17-Jl11523	NCP	%	119			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S17-Jl12193	NCP	%	103			70-130	Pass	
Cadmium	S17-Jl12193	NCP	%	98			70-130	Pass	
Chromium	S17-Jl12193	NCP	%	103			70-130	Pass	
Copper	S17-Jl12193	NCP	%	107			70-130	Pass	
Lead	S17-Jl12193	NCP	%	112			70-130	Pass	
Mercury	S17-Jl12193	NCP	%	97			70-130	Pass	
Nickel	S17-Jl12193	NCP	%	86			70-130	Pass	
Zinc	S17-Jl12193	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S17-Jl15536	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S17-Jl09978	NCP	%	118			70-130	Pass	
Acenaphthylene	S17-Jl09978	NCP	%	117			70-130	Pass	
Anthracene	S17-Jl09978	NCP	%	117			70-130	Pass	
Benz(a)anthracene	S17-Jl09978	NCP	%	122			70-130	Pass	
Benzo(a)pyrene	S17-Jl09978	NCP	%	123			70-130	Pass	
Benzo(g.h.i)perylene	S17-Jl09978	NCP	%	106			70-130	Pass	
Benzo(k)fluoranthene	S17-Jl09978	NCP	%	125			70-130	Pass	
Chrysene	S17-Jl09978	NCP	%	124			70-130	Pass	
Dibenz(a.h)anthracene	S17-Jl09978	NCP	%	127			70-130	Pass	
Fluoranthene	S17-Jl09978	NCP	%	123			70-130	Pass	
Fluorene	S17-Jl09978	NCP	%	120			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S17-Jl09978	NCP	%	125			70-130	Pass	
Naphthalene	S17-Jl09978	NCP	%	117			70-130	Pass	
Phenanthrene	S17-Jl09978	NCP	%	121			70-130	Pass	
Pyrene	S17-Jl09978	NCP	%	123			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S17-Jl10598	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S17-Jl12018	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S17-Jl12018	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S17-Jl12018	NCP	mg/kg	120	180	35	30%	Fail	Q15
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S17-Jl10598	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S17-Jl10598	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S17-Jl10598	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S17-Jl10598	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S17-Jl10598	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S17-Jl10598	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S17-Jl10598	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S17-Jl10598	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S17-Jl12018	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S17-Jl12018	NCP	mg/kg	110	160	33	30%	Fail	Q15
TRH >C34-C40	S17-Jl12018	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S17-Jl12017	NCP	mg/kg	12	12	5.0	30%	Pass	
Cadmium	S17-Jl12192	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S17-Jl12192	NCP	mg/kg	19	19	<1	30%	Pass	
Copper	S17-Jl12017	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S17-Jl12017	NCP	mg/kg	31	31	2.0	30%	Pass	
Mercury	S17-Jl12017	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S17-Jl12192	NCP	mg/kg	9.4	11	13	30%	Pass	
Zinc	S17-Jl12017	NCP	mg/kg	< 5	5.1	14	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S17-Jl09976	NCP	%	10	12	12	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S17-Jl12016	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S17-Jl12016	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S17-Jl09991	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Nibha Vaidya Analytical Services Manager

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Sample Receipt Advice

Company name:	**Douglas Partners (Syd)**
Contact name:	David Walker
Project name:	RESOURCE RECOVERY & RECYCLING FACILITY
Project ID:	85126.03
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Jul 7, 2017 4:23 PM
Eurofins | mgt reference:	**553545**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to David Walker - david.walker@douglaspartners.com.au.